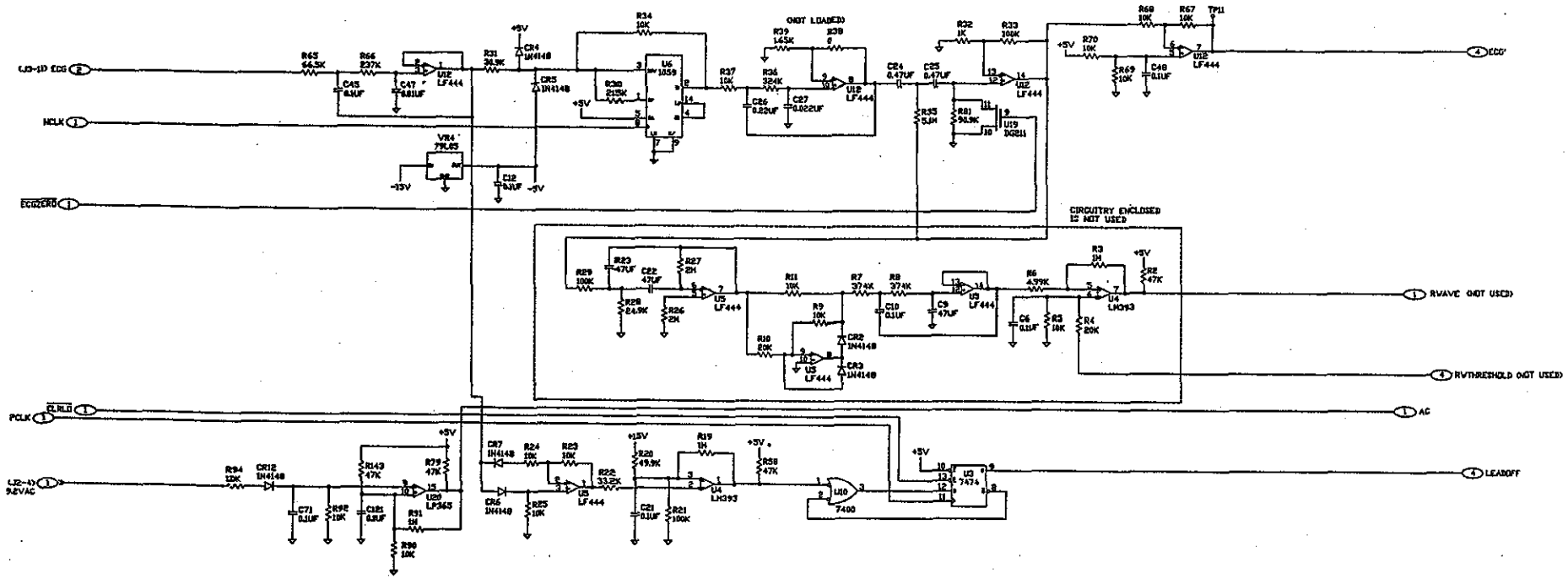
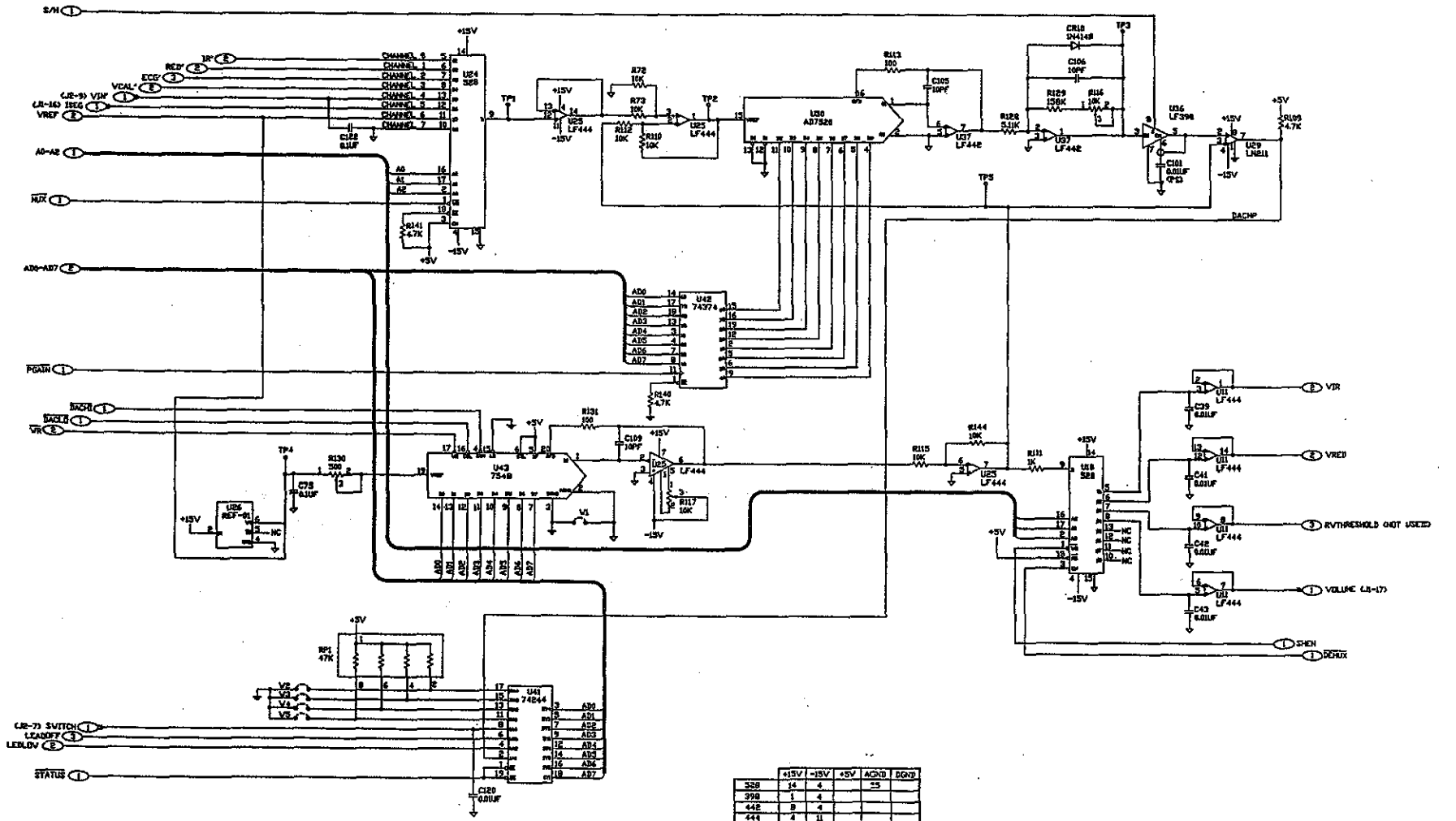


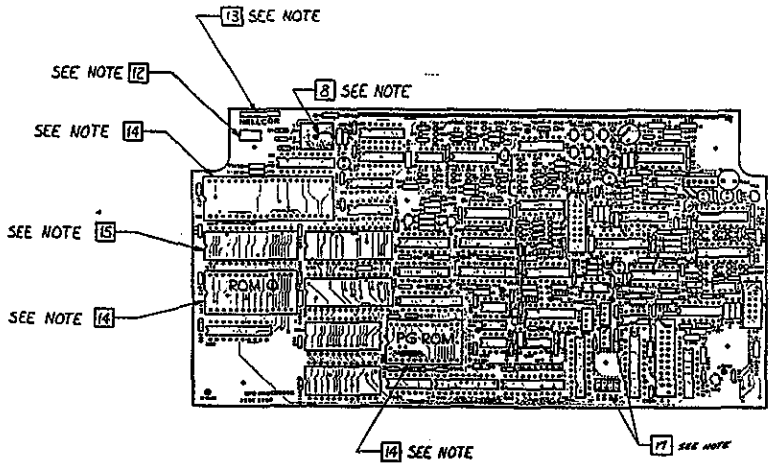
	+15V	-15V	+5V	-5V	AGND	DGND
444	4	11				
811	13	4	12		5	
393	8					4
365	4	13			16	
74			14			7
00			14			7
1059			6	10	11	

Processor PCB Schematic
sheet 3 of 4



	+15V	-15V	+5V	AGND	DGND
328	14	4		25	
398	1	4			
442	8	4			
444	4	11			
374			20		10
211	8	4			1
481	7	4			
544			25		10
7548	12			2	3
7510	14			3	

Processor PCB Schematic
sheet 4 of 4



DETAIL A

PROGRAM ASSY. 3565 PLACEMENT
ROM Ø ASSY.-U21
PG ROM ASSY.-U35

ITEM	P/N:	DESCRIPTION:	QTY	DESIGNATION
109.	791015	*BARE MAT, 22 GA.*	A/R	*SEE NOTE 19*
106.	082689	PCB Processor, M-300, Rev. B	1	-
107.	072368	Assy., Monitor Program	1	See Detail A
106.	783121	Tape, Foam 1/16" thick	A/R	See Note 14
105.	481015	Terminal Test Points	13	TP1 thru TP12, D GND, A GND
104.	481131	Connector, Socket Strip, 8 Pin	1	U21 through U28
103.	481086	Connector, Hdr, Str, 6 Pin Locking	1	J4
102.	401134	Connector, Hdr, Str, 14 Pin	1	J3
101.	401110	Connector, Hdr, Str, 10 Pin	1	J2
100.	401120	Connector, Hdr, Str, 20 Pin	1	J1
99.	691075	Crystal, 22.1184 MHz	1	Y1
98.	611008	Regulator, -8V, 79L08A	1	VR4
97.	610005	Regulator, +5V, 7805	2	VR2
96.	611015	Regulator, -15V, 79L15	1	VR3
95.	610015	Regulator, +15V, 7815	1	VR1
94.	604403	Transistor, 2N4403	2	Q4, Q7
93.	604401	Transistor, 2N4401	8	Q1, Q3, Q5, Q6, Q8, Q9
92.	584148	Diode, 1N4148	10	CR3 thru CR10, CR19
91.	591003	Diode, 1N4263	2	CR1, CR11
90.	304106	Capacitor, M.S. 10pf	4	C105, C106, C109, C113
89.	390103	Capacitor, Polyprop. .01uf	1	C101
88.	304471	Capacitor, M.S. 470pf	1	C98
87.	304470	Capacitor, M.S. 47pf	1	C94
86.	304103	Capacitor, M.S. .01uf	6	C39, C41, C42, C43, C47, C120
85.	344336	Capacitor,Dipped Tant,35V 22uf	1	C54
84.	347225	Capacitor,Dipped Tant,35V 2.2uf	3	C16, C18, C74
83.	304223	Capacitor, M.S. .022uf	1	C37
82.	304474	Capacitor, M.S. .47uf	2	C24, C25
81.	343706	Capacitor,Dipped Tant,35V 1uf	1	C19
80.	304224	Capacitor, M.S. .22uf	7	C15, C26, C31, C32, C36, C51, C68
79.	304102	Capacitor, M.S. .001uf	4	C14, C30, C52, C96
78.	344335	Capacitor,Dipped Tant,35V 4.7uf	1	C13
77.	304473	Capacitor, M.S. .047uf	7	C9, C10, C22, C23, C35, C53, C67
76.	304104	Capacitor, M.S. .1uf	78	See Note 2
75.	304330	Capacitor, M.S. 33pf	3	C1, C2, C112
74.	181016	Potentiometer,19T Top Adj. 500 Ohm	1	R130
73.	211582	Resistor, 1% M.F. 750K	1	R129
72.	210121	Resistor, " " 9.31K	1	R128
71.	211913	Resistor, " " 191K	1	R126
70.	213532	Resistor, " " 95.3K	1	R125
69.	210962	Resistor, " " 88.6K	1	R119
68.	213321	Resistor, " " 2.32K	2	R118, R120
67.	291008	Potentiometer,19T Top Adj. 10K	3	R116, R117, R121
66.	211009	Resistor, 1% M.F. 100 Ohm	3	R113, R131, R132
65.	200226	Resistor, 1/4W 5% CC 22 Meg	1	R36
64.	210093	Resistor, 1% M.F. 90.9K	1	R81
63.	291009	Resistor, .1% M.F. 10.0K	4	R72, R73, R110, R112
62.	213373	Resistor, 1% M.F. 237K	1	R46
61.	214982	Resistor, 1% M.F. 64.9K	3	R45, R100, R101
60.	212000	Resistor, 1% M.F. 200 Ohm	1	R63
59.	211541	Resistor, " " 1.54K	1	R60
58.	214092	Resistor, " " 40.2K	2	R50, R60
57.	200471	Resistor, 1/4W 5% CC 470 Ohm	1	R44, R45, R127
56.	200472	Resistor, 1/4W 5% CC 4.7K	6	R42, R43, R59, R105, R118 thru R141
55.	212241	Resistor, " " 324K	1	R38
54.	215114	Resistor, " " 5.11 Meg	1	R35
53.	211001	Resistor, " " 1.00K	8	R32, R46, R67, R74, R93, R95, R111, R134
52.	213082	Resistor, " " 30.9K	1	R31
51.	212153	Resistor, " " 215K	1	R30
50.	212492	Resistor, " " 24.9K	1	R26
49.	212004	Resistor, " " 2 Meg	2	R16, R27
48.	213323	Resistor, " " 33.2K	3	R22, R87, R107
47.	211003	Resistor, " " 100K	9	R21, R29, R33, R84, R89, R105 thru R111, R124, R142
46.	214992	Resistor, " " 49.9K	5	R10, R88, R103, R104, R132
45.	211543	Resistor, " " 154K	4	R18, R53, R56, R83
44.	211112	Resistor, " " 51.1K	8	R15, R16, R17, R51, R54, R55, R57, R82
43.	210100	Resistor, " " 10 Ohm	1	R123, R13, R14,
42.	212002	Resistor, " " 20.0K	4	R4, R10, R48, R76
41.	213743	Resistor, " " 374K	2	R7, R8
40.	214991	Resistor, " " 4.99K	5	R6, R9, R75
39.	211002	Resistor, " " 10.0K	27	See Note 1
38.	211004	Resistor, " " 1 Meg	8	R3, R19, R24, R39, R91, R98, R102, R106
37.	200473	Resistor, 1/4W 5% CC 47K	7	R1, R58, R78, R79, R108, R136, R143
36.	217502	Resistor, 1% M.F. 75.0K	1	R5
35.	330473	Resistor Pkg., 4 Pin SIP 47K	1	RP1
34.	197824	I.C. 7824ZW, 8 Bit DAC	1	U44
33.	197848	I.C. 7848N	1	U43
32.	130244	I.C. 74HC244	1	U41
31.	130393	I.C. 74HC393	1	U39
30.	130442	I.C. LF442N	1	U37
29.	130398	I.C. LF398	1	U36
28.	170033	I.C. P272A	REF	U35
27.	783024	I.C. Socket, 24 Pin	1	U35
26.	186253	I.C. 82C53-5	2	U34, U38
25.	130273	I.C. 74HC273	1	U33
24.	199130	I.C. LM13A	1	U31
23.	181039	I.C. DAC1020L	1	U30
22.	120211	I.C. LM311	1	U29
21.	130374	I.C. 74HC374	3	U28, U40, U43
20.	190001	I.C. REF01, 10 Volt	1	U24
19.	198259	I.C 82C59-2RS	1	U22
18.	171512	I.C. 27C512, EPROM	REF	U21
17.	782018	I.C. Socket, 28 Pin	1	U21
16.	130365.	I.C. LP165N	1	U2Q
15.	190211	I.C. DG211CJ	1	U19
14.	180828	I.C. DS828C	2	U14, U24
13.	130139	I.C. 74HC138	3	U17, U23
12.	198121	I.C. 82C52	1	U16
11.	189137	I.C. DS1242	1	U19-See Note 15
10.	190847	I.C. DG213C	1	U14
9.	130009	I.C. 74HC08	1	U10
8.	130004	I.C. 74HC04	1	U9
7.	198138	I.C. 80C88HB-2/UPD70108C-8	1	U8
6.	782040	I.C. Socket, 40 Pin	1	U8
5.	181059	I.C. LTC1059	1	U6
4.	130444	I.C. LF444	8	U5, U7, U11, U13, U15, U25, U27, U32
3.	130393	I.C. LM393	1	U4
2.	198139	I.C. 82C84A-2/UPD71084C	1	U2
1.	130074	I.C. 74HC74	2	U1, U3
ITEM	P/N:	DESCRIPTION:	QTY	DESIGNATION

Processor PCB Assembly

NOTES:

1. Designations for Resistor, 10.0K, P/N 211002 (27 ea):

   R5, R9, R11, R23, R24, R25, R34, R37, R40, R41, R47, R48, R52, R61, R67, R68, R69, R70, R71, R85, R90, R92, R96, R97, R114, R115, R127.

2. Designations for Capacitor, .1uf, P/N 304104, (77 ea):

   C3 thru C8, C10, C12, C17, C18, C20, C21, C28 thru C38, C40, C44, C48, C49, C50, C54, C56, C58 thru C66, C69 thru C73, C75 thru C78, C80 thru C90, C91, C93, C97, C98, C99, C102, C103, C104, C107, C108, C110, C111, C114 thru C119, C121, C122.

3. Orient I.C.'s with Pin 1 to Square Pad.

4. Polarized Capacitors to be mounted with Positive (+) side to Square Pad.

5. Color Coded Resistors to be LEFT or UP as appropriate.

6. All Capacitors and Precision Resistors to be mounted with value visible.

7. Diodes to be mounted with Banded (Cathode) side to Square Pad.

8. Crystal, Y1, may be secured by 22 ga. buss wire, hot melt glue, foam tape (P/N 783121), or by pin inserted into board and bent over crystal.

9. Note: This board contains static sensitive components and should be handled accordingly. *AFTER ASSEMBLY, PLACE IN STATIC SHIELDING BAG.*

10. RESISTOR LOCATIONS R38 AND R121 ARE JUMPERED WITH 22 GA. BUSS WIRE ACROSS PADS OR WITH ZERO OHM RESISTOR (P/N 200000).

11. The following designations are NOT loaded: R39, C100.

12. Apply three (3) digit 'Year Week' date code in the area indicated on component side per procedure MX-019235.

13. Apply assembly revision, vendor code, and the serial number in the area indicated on component side per procedure MX-019225.

14. Add tape (106) to I.C. sockets U8, U2N, & U28 (cut as required) before loading I.C. SOCKETS (7) & ROM Assy (1@ & 2@).

15. I.C. DS1242, U19, may not be processed thru automatic flow solder or cleaning operations. HAND CLEAN WITH FREON OR ALCOHOL ONLY.

16. PCB'S PASSING "IN CIRCUIT TEST" MUST BE STAMPED BY ON SOLDER SIDE.

17. *COMPONENT SIDE: SOLDER PERMANENT JUMPER (22 GA. BUSS WIRE) (109) AT LOCATIONS W1 AND W4.*

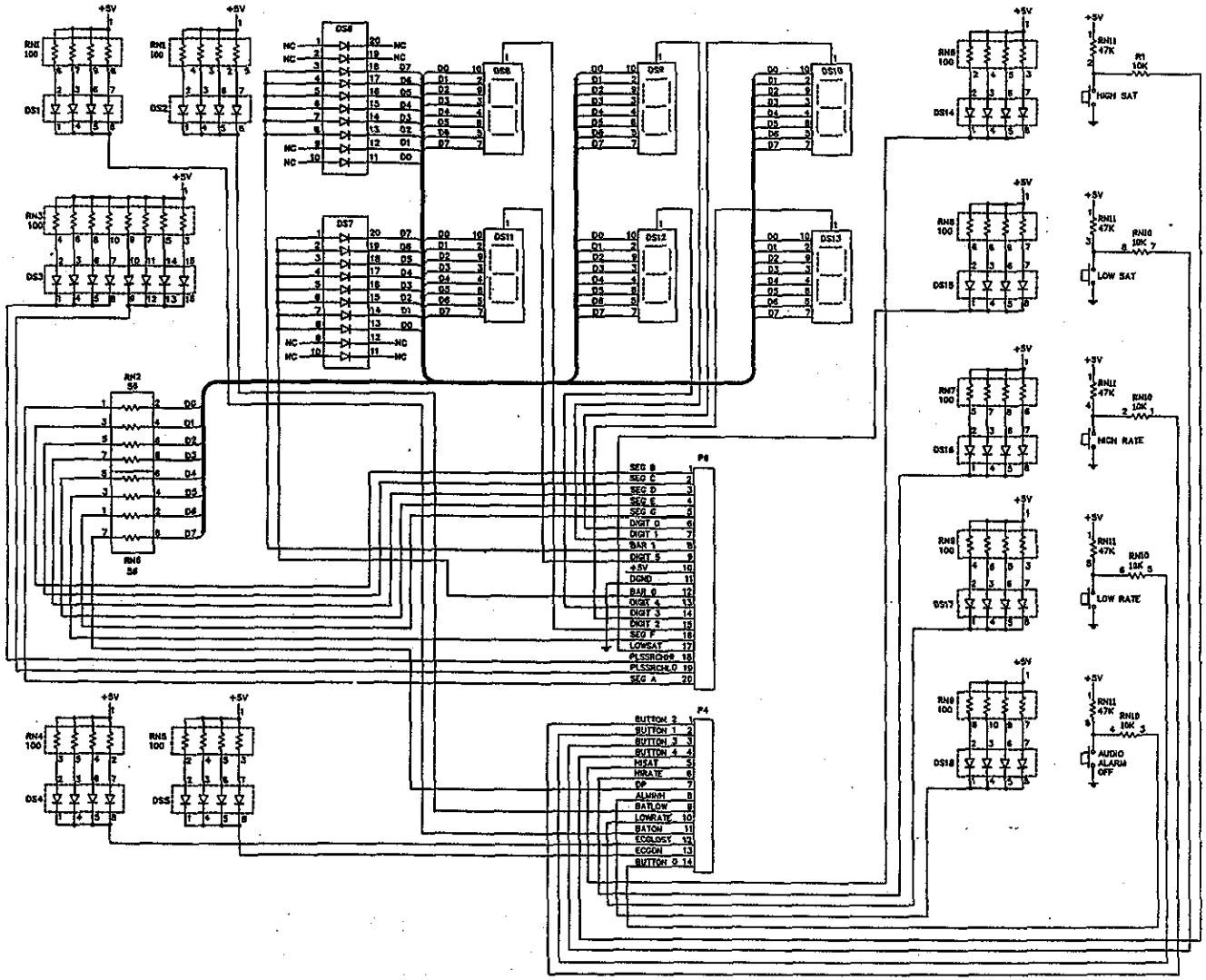
REFERENCE NOTES:

1. Reference "PROTO" Bill of Materials 992700 or 992700 for outside vendor processing of PCB Assembly.

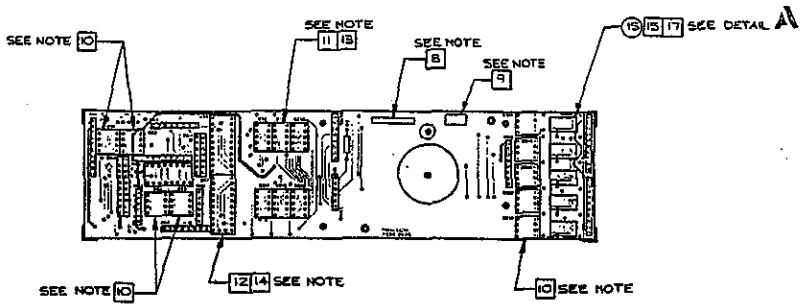
2. The following parts are not loaded by outside vendor:

   a) For 992700: 1) 073868, Program Assembly
      2) 753121, TAPE AT LOCATIONS U21,U35 AND U8

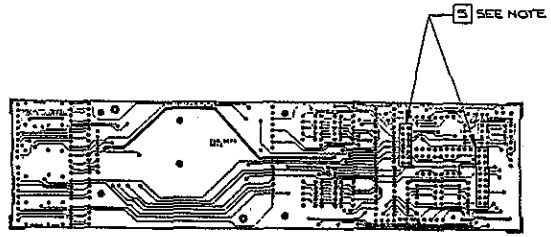
   b) For 992700: 1) 073565, Program Assembly
      2) 753121, TAPE AT LOCATIONS U21 AND U35



Display PCB Schematic



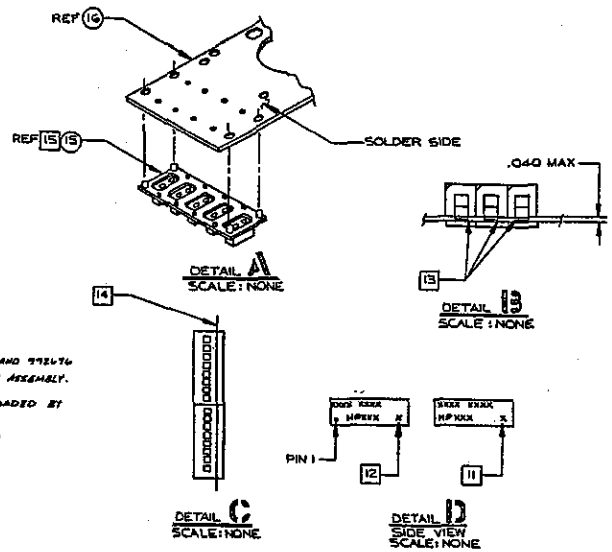
COMPONENT SIDE



SOLDER SIDE

NOTES:

1. Orient I.C.'s with Pin 1 to Square Pad.
2. Color Coded (Banded) Resistors to be LEFT or UP as appropriate.
3. All Precision Resistors to be mounted with value visible.
4. Diodes to be mounted with Banded (Cathode) side to Square Pad.
5. LOAD SOLDER SIDE: P4 and P6.
6. This Board contains static sensitive components and should be handled accordingly. After assembly, place in *static* shielding bag.
7. Resistor packages, RM1 thru RM11, mounted with Pin 1 to Square Pad.
8. Apply assembly revision, vendor code, and the serial number in the area indicated on component side per procedure MI-019236.
9. Apply three (3) digit 'year week' date code in the area indicated on component side per procedure MI-019235.
10. LED light bars (Red), DS2 thru DS4, DS14 thru DS18 must BE OF IDENTICAL BRIGHTNESS CODE AND MANUFACTURER. LED LIGHT BARS (YELLOW), DS1 AND DS5, MUST BE OF IDENTICAL BRIGHTNESS CODE AND MANUFACTURER. DO NOT MIX BRIGHTNESS CODES OR MANUFACTURER.
11. LED 7 segment displays, DS8 thru DS13 must BE OF IDENTICAL BRIGHTNESS CODES. _____. Do not mix brightness codes. See Detail "D".
12. LED Bar Graph, DS6 and DS7 must BE OF IDENTICAL MANUFACTURER AND BRIGHTNESS CODES. DO NOT MIX MANUFACTURER OR BRIGHTNESS CODES. SEE DETAIL "D".
13. Align each set of three LEDs (DS8, 9, 10) & (DS11, 12, 13) such that the lower segments are between two parallel lines .040" apart per Detail "B".
14. Align both bargraphs, DS6 & DS7, such that bars are vertically aligned per Detail "C".
15. Install keypad (15) in-house using keypad insertion tool #5628. See Detail "A".
16. All LEDs to be installed with Pin 1 to Square Pad.
17. Clean gold contact area with alcohol before installing keypad. Solder not allowed on gold contact area.
18. All component leads not to exceed 1/16" max.
19. LED SEVEN SEGMENT DISPLAYS, DS8 THRU DS13, AND LED BAR GRAPHS, DS6 AND DS7, MUST ALL BE OF IDENTICAL COLOR BACKGROUND (WHITE OR BLACK). COLOR BACKGROUNDS MAY NOT BE MIXED, i.e., THE ENTIRE ASSEMBLY MUST BE BUILT WITH EITHER ALL WHITE OR ALL BLACK BACKGROUND PARTS FOR ITEMS 11 AND 12.

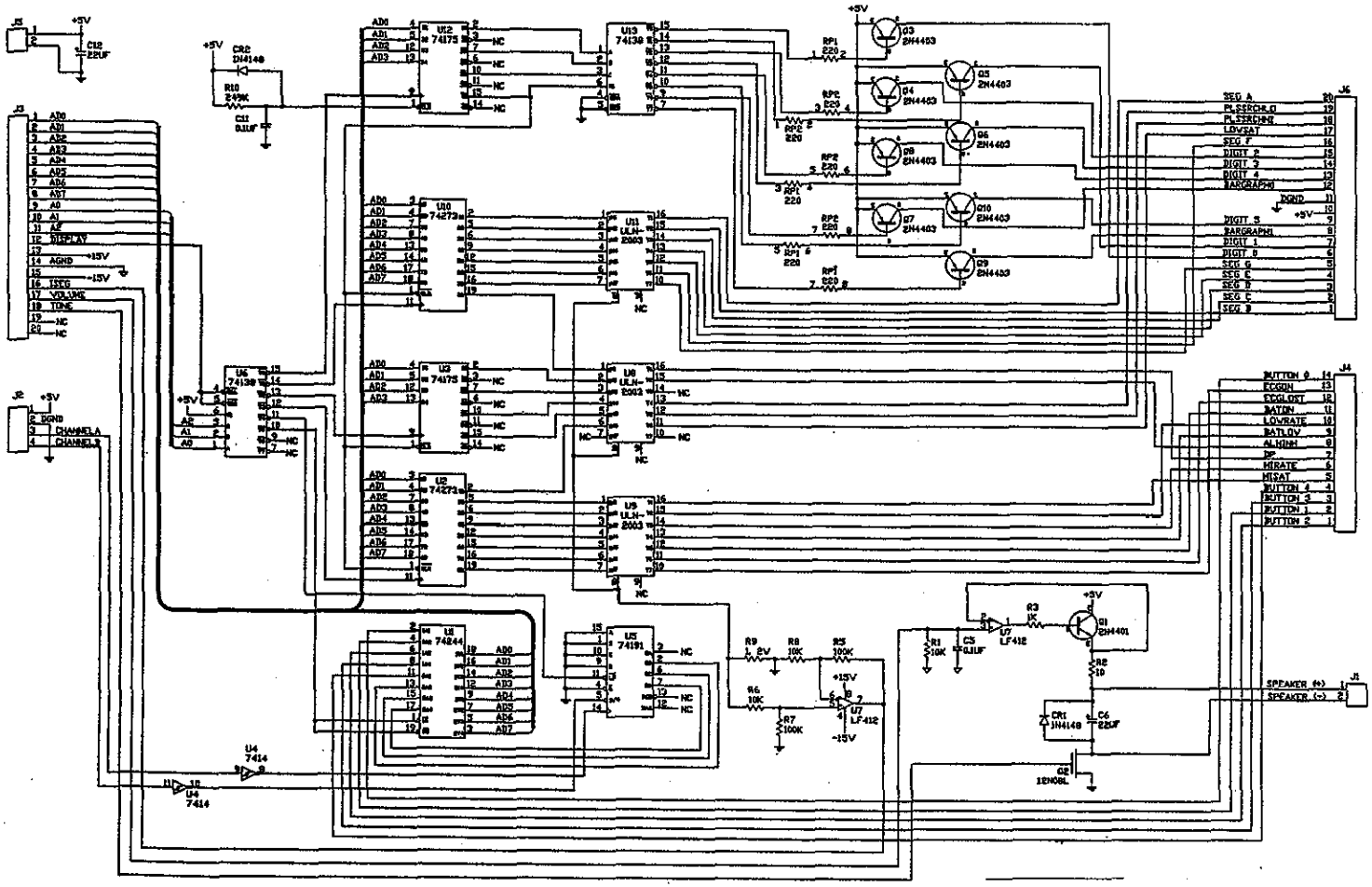


REFERENCE NOTES:

1. REFERENCE "MASK" BILL OF MATERIAL 982676 AND 992676 FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.
2. THE FOLLOWING COMPONENTS ARE NOT LOADED BY OUTSIDE VENDOR:
   A) FOR P/N 982676 : P/N 085699
   B) FOR P/N 992676 : P/N 085697

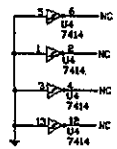
ITEM	P/N	DESCRIPTION:	QTY	DESIGNATION
16.	082679	PCB, Display, Rev C	1	-
15.	082877	Keypad	1	See Notes 15,17
14.	491555	Conn skt Strip, DR, 20 Pin	1	P5 SEE NOTE 5
13.	491057	Conn skt Strip, DR, 14 Pin	1	P4 SEE NOTE 5
12.	491050	LED 7 Segment Display, High Eff.	6	DS8 thru DS13
11.	491051	LED Bar Graph, High Eff., Red	2	DS7, DS6
10.	542101	LED Light Bar, Yellow, Small (HLMP-2755)	1	DS5, DS1,
9.	540102	LED Light Bar, High Eff., Red, Large	1	DS3
8.	540101	LED Light Bar, High Eff., Red, Small (HLMP-2655)	7	DS2, DS4 DS14-DS18
7.	291050	Resistor, 47K, 6 Pin	1	RM11
6.	291049	Resistor, 10K, 8 Pin	1	RM10
5.	220101	Resistor Pkg, 100 Ohm, 10 Pin	4	RM9, RM8, RM3, RM1
4.	220101	Resistor Pkg, 100 Ohm, 6 Pin	1	RM7
3.	291043	Resistor Pkg, 56 Ohm, 8 Pin	2	RM6, RM2
2.	291042	Resistor Pkg, 100 Ohm, 6 Pin	2	RM5, RM4
1.	311003	Resistor, 1K, M.F., 10K	1	R1

Display PCB Assembly

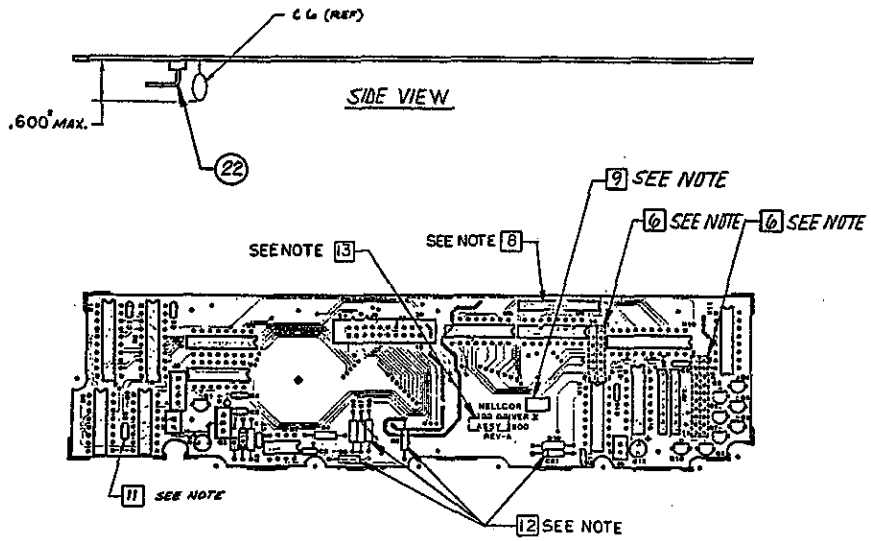


NOTES:

1. C1 THRU C4, C7 THRU C10 ARE .01UF POWER SUPPLY DECOUPLING CAPACITORS.



Driver PCB Schematic



ITEM	P/N	DESCRIPTION	QTY	DESIGNATION
28.	053799	PCB, DRIVER II, BARE, REV A	1	-
27.	491056	Conn Interconnect, DR, 20 Pin	1	J6 - SEE NOTE 6
26.	401002	Conn Header, Str, 2 Pin (Amp)	1	J5
25.	491058	Conn Interconnect, DR, 14 Pin	1	J4 - SEE NOTE 6
24.	401120	Conn Header, STR, 20 Pin	1	J3
23.	401004	Conn Header, Str, 4 Pin (Amp)	1	J2
22.	491104	Conn Header, R/A, 2 Pin	1	J1 - SEE SIDE VIEW
21.	604403	Transistor, 2N4403	8	Q3 thru Q10
20.	601208	Transistor, 12N08L	1	Q2
19.	604401	Transistor, 2N4401	1	Q1
18.	584148	Diode, 1N4148	2	CR1, CR2
17.	344226	Capacitor, Dipped Tant, 22uf, 35V	2	C6, C12
16.	384104	Capacitor, M.S., .10uf	10	C1, C2, C3, C4, C5, C7, C8, C9, C10, C11
15.	212493	Resistor, 1% M.F., 249K	1	R10
14.	291073	Resistor, 1% W/W, 2W, 1.0 Ohm	1	R9
13.	211003	Resistor, 1% M.F., 100K	2	R5, R7
12.	211001	Resistor, 1% M.F., 1K	1	R3
11.	210100	Resistor, 1% M.F., 10 Ohm	1	R2
10.	211002	Resistor, 1% M.F., 10.0K	4	R1, R4, R6, R8
9.	291074	Resistor Pkg, 8 Pin SIP, 220 Ohm	2	RP1, RP2
8.	192003	I.C., ULN2003	3	U8, U9, U11
7.	120412	I.C., LF412	1	U7
6.	130138	I.C., 74HC138	2	U6, U13
5.	130191	I.C., 74HC191	1	U5
4.	130014	I.C., 74HC14	1	U4
3.	130175	I.C., 74HC175	2	U3, U12
2.	130273	I.C., 74HC273	2	U2, U10
1.	130244	I. C., 74HC244	1	U1

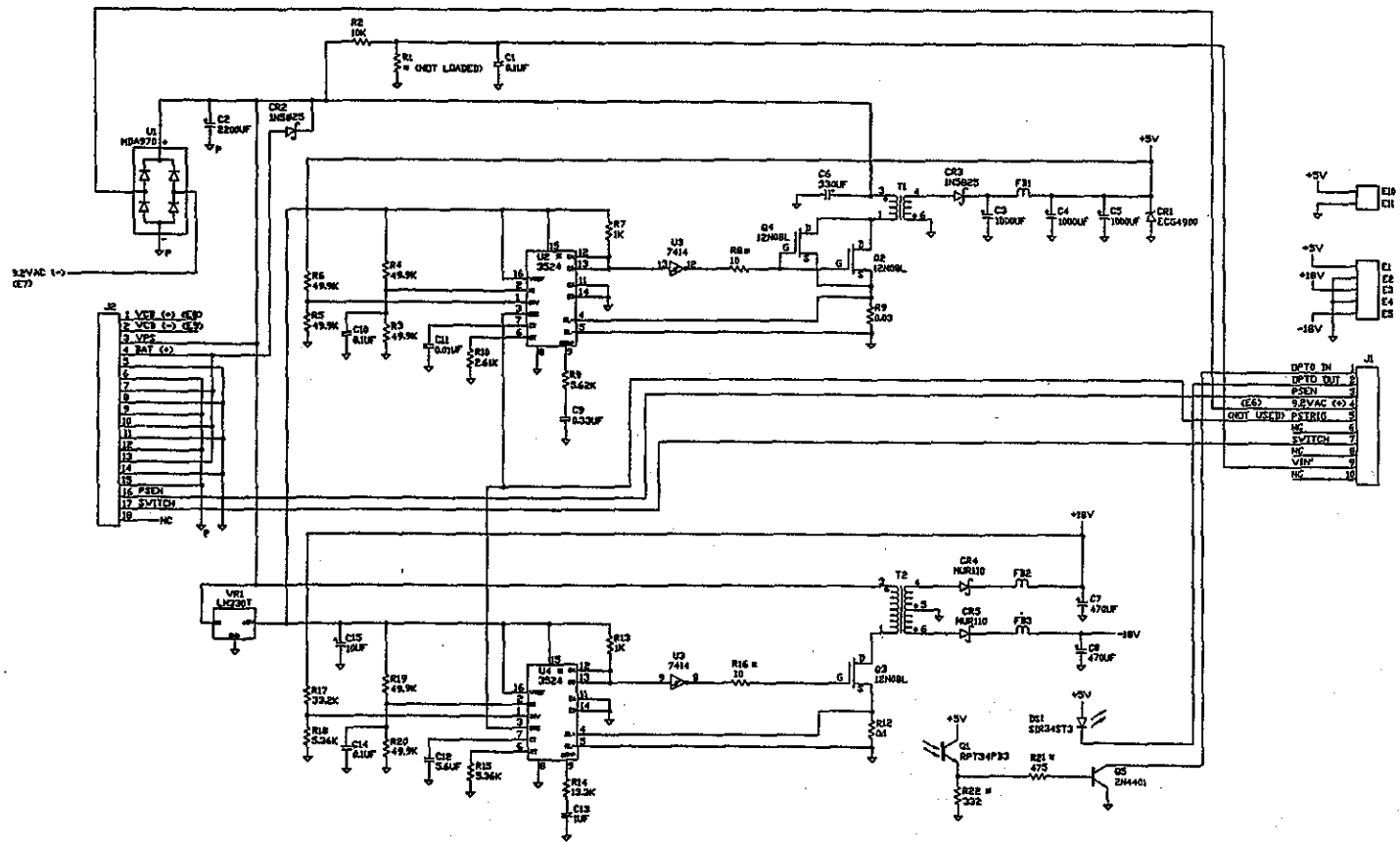
NOTES:

1. Orient I.C.'s with Pin 1 to Square Pad.
2. Polarized Capacitors to be mounted with Positive Side to Square Pad.
3. Color Coded (Banded) Resistors to be LEFT or UP as appropriate.
4. All Capacitors and Precision Resistors to be mounted with value visible.
5. Diodes to be mounted with Banded (Cathode) Side to Square Pad.
6. LOAD SOLDER SIDE: J6 and J4.
7. This Board contains static sensitive components and should be handled accordingly. After assembly, place in anti-static plastic bag.
8. Apply Assembly Revision, Vendor Code, and the Serial Number in the area indicated on COMPONENT SIDE per procedure MI-019235.
9. Apply three (3) digit "Year Week" date code in the area indicated on COMPONENT SIDE per procedure MI-019235.
10. ALL COMPONENT LEADS NOT TO EXCEED 1/16" MAX.
11. CAPACITOR C3 HEIGHT NOT TO EXCEED TOP OF IC, U6.
12. DIODE CR2 AND RESISTORS R5 THRU R10 TO BE MOUNTED MAX OF .010" OFF PCB.
13. PCB'S PASSING "IN CIRCUIT TEST" MUST BE STAMPED BY VENDOR ON SOLDER SIDE.

REFERENCE NOTES

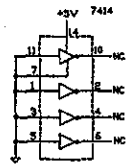
1. REFERENCE "MADIC" BILL OF MATERIALS, 993800, FOR OUTSIDE VENDOR PROCESSING of PCB ASSEMBLY.

Driver PCB Assembly

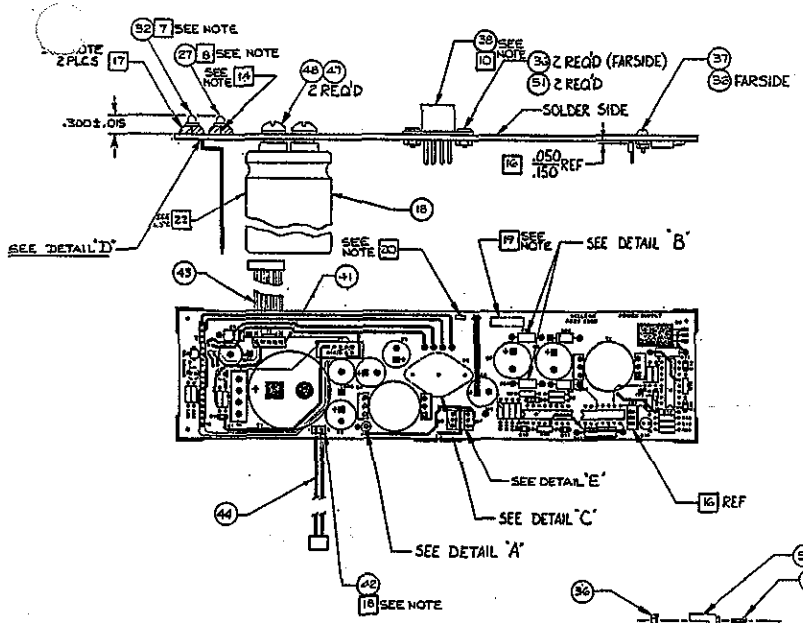


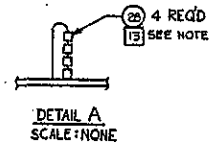
NOTES:

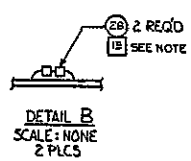
1. ALL RESISTORS 1% METAL FILM UNLESS OTHERWISE SPECIFIED.
2. ALL RESISTORS IN KOHMS UNLESS OTHERWISE SPECIFIED.
3. ALL RESISTANCES FOLLOWED BY ASTERISK (*) ARE IN OHMS.
4. U2 AND U4 (*) USE ONLY NATIONAL LM3524.

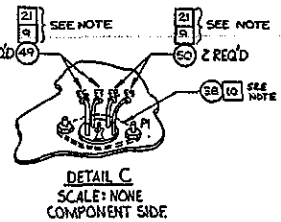


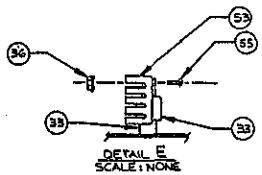
Power Supply PCB Schematic

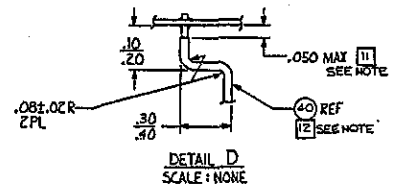












NOTES:

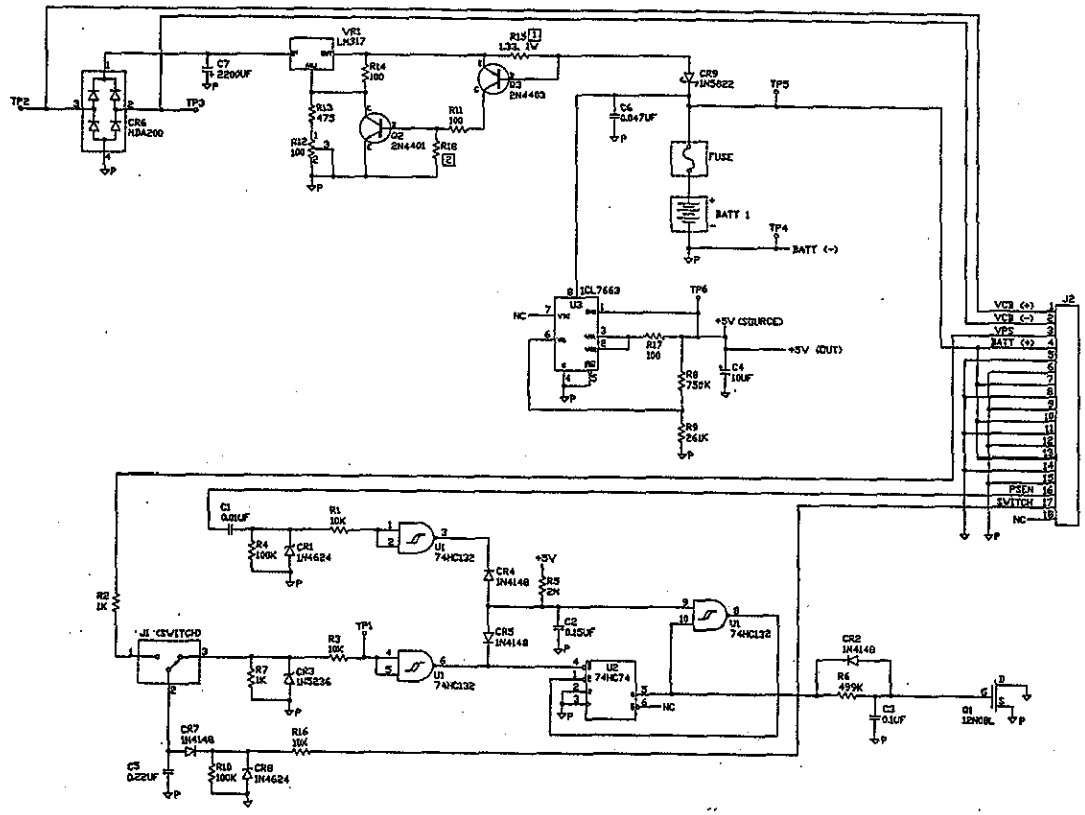
1. Orient I.C.'s with Pin 1 to Square Pad.
2. Polarized Capacitors to be mounted with Plus (+) side to Square Pad.
3. Color coded Resistors to be mounted with color code LEFT or UP as appropriate.
4. ALL Capacitors and Precision Resistors to be mounted with value visible.
5. Diodes to be mounted with banded (Cathode) side to Square Pad.
6. This board contains static sensitive components and must be handled accordingly. After assembly, place static sensitive bag.
7. Mount Q1 with long lead in Square Pad.
8. Mount DS1 with short lead in Square Pad.
9. Strip gap not to exceed .100" above the PCB. Solder joints to be clearly visible (both sides). Tin stripped wires before soldering.
10. Connector (P8) to be installed flush to PCB. INSTALL FROM SOLDER SIDE.
11. Solder flex jumper (40) with a max. gap of .080" to the insulation. Solder joints must be clearly visible. NON-conductive spacers may be used at Pins 1 & 18.
12. Pre-bend flex jumper (40) as shown in Detail 'D'. Bends to have radius as shown (do not make complete fold).
13. Use 20ga Buss Wire to lead Ferrite Beads (FB).
14. Apply heatsink to DS1 & Q1 leads close to the component body during soldering. Soldering tip temperature to be a max. of 500° F for max. of 5 seconds, use 30 WATT SOLDERING IRON. SOLDER FROM PCB COMPONENT SIDE ONLY. WAIT MIN. OF 30 SECONDS AFTER SOLDERING BEFORE CUTTING THE LEADS.
15. All component leads not to exceed 1/16" MAX.
16. Solder VR1 (35) .050" ~ .150" above the PCB.
17. Apply hot melt glue (52) to the base of photoresistor Q1 (32) & LED DS1 (27) as shown. Hot melt glue not to exceed 1/3 height of the bulbs.
18. Orient Cable Assy (44) with Black wire to Pin 1 (Square Pad).
19. Apply assembly revision, vendor code, and the serial number in area indicated on Component Side per procedure MI-019235.
20. Apply three (3) digit 'Year Week' date code in the area indicated on Component Side per procedure MI-019235.
21. All wire connections from P2 to P8, 7, 8, and 9 to be 1.50 inches long.
22. BEFORE INSTALLING, MARK CAPACITOR C2 (WITH PERMANENT INK) WITH "+" SIGN ON POSITIVE SIDE OF COMPONENT.

ZP. RESISTOR, R1, NOT LOADED.

REFERENCE NOTE:
1) REFERENCE "MADE" BILL OF MATERIAL REVISION OF ASSEMBLY FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.

KEY	801836	Static, Pad HEAD, 4-40 x 1/2"	1	Q2,Q4
54.	052387	PCB, Power Supply, Bare, Rev C	1	"
53.	891141	Heat Sink, TO-220 Trans. Pkg	1	Q2/Q4
52.	801091	Hot melt glue	A/R	"
51.	891111	Screw, Flathead, UNDERCUT, 82°#4-40 X.45"	2	P1
50.	721420	Wire, 22 Ga, Orange, UL1007	1"	P1,P2,P8
49.	721470	Wire, 22 Ga, Violet, UL1007	1"	P1,P6,P7
48.	864401	Washer, Lock Internal #10	2	C2
47.	804031	Screw, 10-32 x 5/16	2	C2
46.	051167	ASSY, Transformer P.S.	1	T2
45.	053409	ASSY, 5 Volt Transformer	1	T1
44.	074343	ASSY, Cable, Display/Power Supply PCBs	1	J4
43.	074342	ASSY, Cable, Power Supply/Pcase PCBs	1	J3
42.	401803	Connector, Hdr, 2 Pin, Str.	1	J4
41.	491086	Connector, Hdr, 5 Pin, Str., Locking	1	J3
40.	491094	Connector, Flex Jumper, 18 Pin 2" long	1	J2 = See Detail D
39.	401110	Connector, Hdr, Str, 10 Pin	1	J1
38.	491084	Connector, DIN, 4 Pin (Male)	1	P1
37.	801025	Screw, Pan Head, 4-40 x 1/4"	1	Q3
36.	851101	Keynut, 4-40	4	P1, Q2/Q4,Q3
35.	816005	Regulator, +5V, LM330T	1	VR1
34.	804401	Transistor, 2N4401	1	Q5
33.	401208	Transistor, 12N08L, 12 Amp	3	Q1, Q3, Q4
32.	491035	Transistor, Photo	1	Q1,
31.	891004	Diode, MUR110, 100V	2	CR4, CR5
30.	585825	Diode, 1N5825	2	CR2, CR3
29.	864900	Diode, 1N5908 (ECG4900)	1	CR1
28.	691010	Ferrite Beads	8	FB3 (2 req'd) FB2 (2 req'd) FB1 (4 ea) See Detail A
27.	801001	LED, IR Lamp	1	DS1
26.	843106	Capacitor, Dipped Tant, 35V, 10uf	1	C15
25.	304102	Capacitor, M.S. .001uf	1	C13
24.	304562	Capacitor, M.S. .0056uf	1	C12
23.	304103	Capacitor, M.S. .01uf	1	C11
22.	304334	Capacitor, M.S. 0.33uf	1	C9
21.	399114	Capacitor, Electrolytic, 15V 470uf	2	C7, C8
20.	399115	Capacitor, " 25V 330uf	1	C6
19.	399116	Capacitor, " 10V 1000uf	9	C3, C4, C5
18.	399117	Capacitor, Electrolytic, 25V 22,000uf	1	C2
17.	304104	Capacitor, M.S. .10uf	3	C1,C10, C14
16.	313320	Resistor, 1% M.F. 332 Ohm	1	R22
15.	314750	Resistor, 1% M.F. 475 Ohm	1	R21
14.	313322	Resistor, 1% M.F. 33.2K	1	R37
13.	315361	Resistor, " " 5.36K	3	R15, R16
12.	313322	Resistor, " " 13.3K	1	R14
11.	391001	Resistor, 1%, 1W WW .1 Ohm	1	R12
10.	391052	Resistor, 1%, 3W WW .03 Ohm	1	R11
9.	312611	Resistor, 1% M.F. 2.61K	1	R10
8.	315621	Resistor, " " 5.62K	1	R9
7.	2101100	Resistor, " " 10 Ohm	2	R5, R14
6.	311001	Resistor, " " 1.00K	2	R7, R13
5.	314992	Resistor, " " 49.9K	6	R3, R4, R8 R6,R19,R20
4.	311002	Resistor, " " 10.0K	1	R2.
3.	130814	I.C. 74HC14	1	U3
2.	199139	I.C. LM393AN	2	U2, U4
1.	691004	Bridge Rectifier	1	U1
ITEM	P/N	DESCRIPTION:	QTY	DESIGNATION

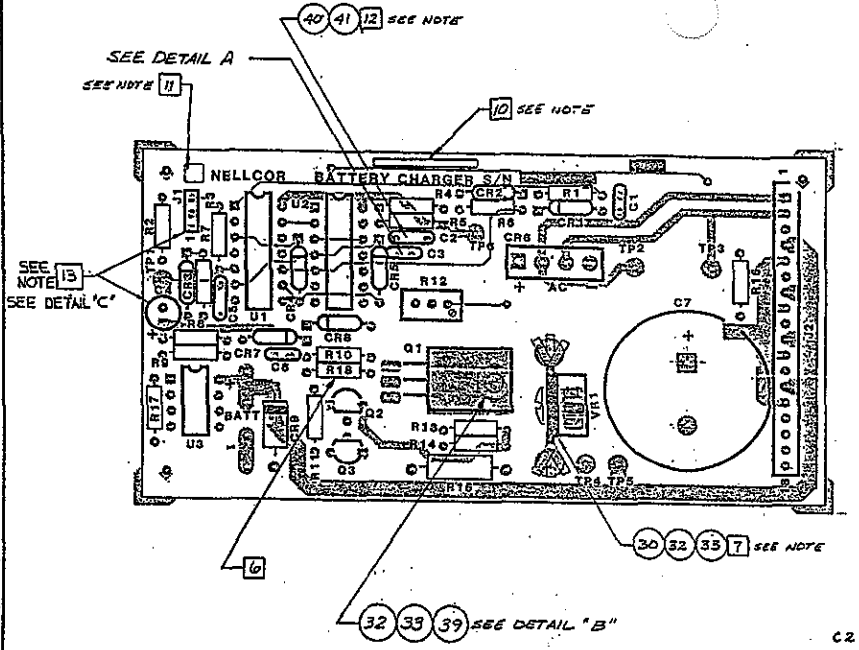
Power Supply PCB Assembly

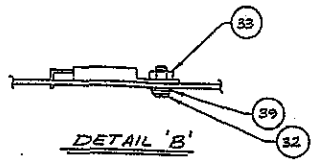


NOTES: [1] ASSY 2270 BATTERY CHARGER PCB SPECIFIES R15 AT 2.0 OHM. THE CHANGE ACCOMMODATES A HIGHER MAXIMUM CHARGE CURRENT TO ACCOMMODATE ALL APPROVED BATTERY VENDORS. REF. SECTION 5.3.2, N200 SERVICE MANUAL. IF TESTING A 2270 BOARD, VERIFY THE VALUE OF R15 AND USE THE APPROPRIATE TEST NUMBERS FROM 5.3.2.

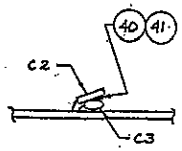
[2] R10 NOT LOADED.

Battery Charger PCB Schematic

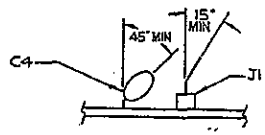




DETAIL 'B'



DETAIL A
SIDE VIEW



DETAIL 'C'

NOTES:

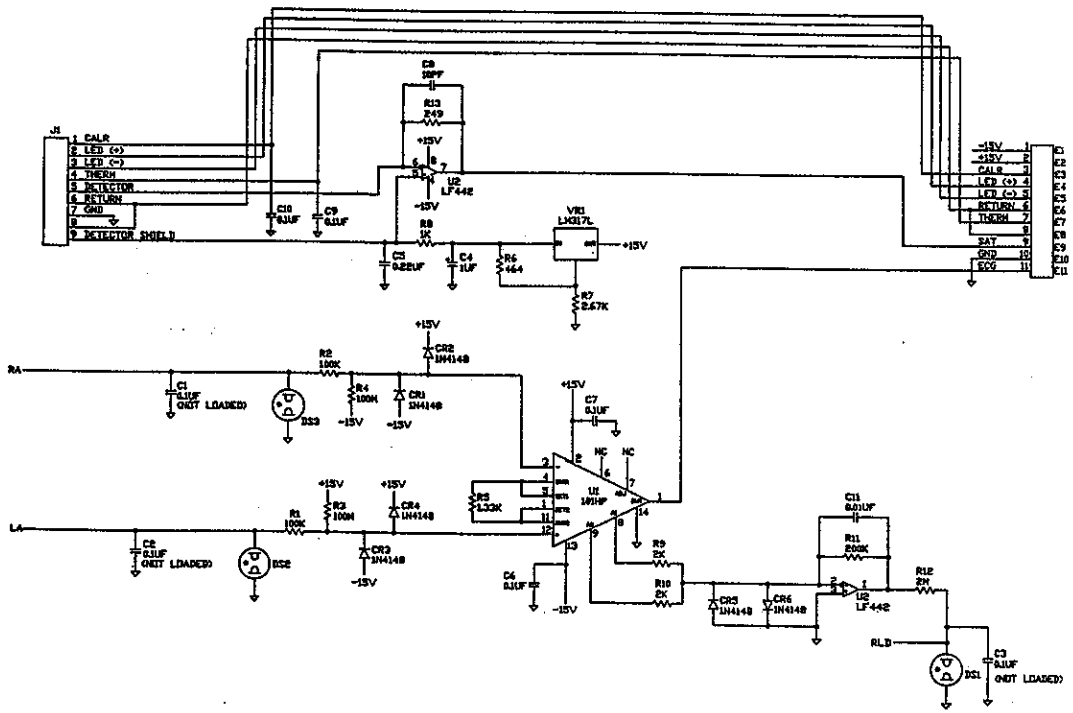
1. Orient I.C.'s with Pin 1 to Square Pad.
2. Color Code Resistors to be LEFT or UP as appropriate.
3. All Capacitors and Precision Resistors to be mounted with value visible.
4. Polarized Capacitors mounted with positive (+) side to Square Pad.
5. Diodes mounted with banded (Cathode) side to Square Pad.
6. Resistor R18 is NOT loaded.
7. Apply Thermal Conductive Adhesive (30) to Heat Sink surface before mounting VR1.
8. All component leads not to exceed 1/16" maximum.
9. This PCB ASSY contains static-sensitive components AND MUST BE HANDLED ACCORDINGLY. AFTER ASSEMBLY, PLACE IN STATIC SHIELDING BAG.
10. Apply assembly revision, vendor code, and the serial number in the area indicated on component side per procedure MI-019235.
11. Apply three (3) digit "year Week" date code in the area indicated on the component side per procedure MI-019235.
12. INSTALL CAPACITOR C5 FLUSH TO PCB PER DETAIL 'A'. INSTALL CAPACITOR C2 AND SECURE TO CAPACITOR C3 USING ADHESIVE (40 & 41) PER DETAIL 'A'.
13. INSTALL CAPACITOR C4 AND CONNECTOR HEADER J1 AS SHOWN IN DETAIL 'C'. PRE-BEND BOTH PARTS BEFORE WAVE SOLDERING OPERATION.

REFERENCE NOTE:

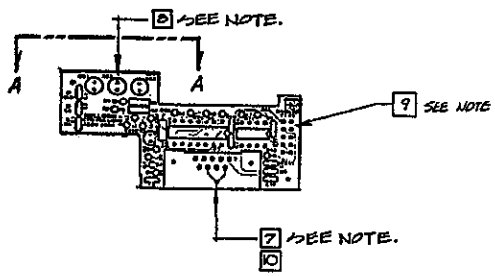
1. REFERENCE MADIC BILL OF MATERIAL 996240 FOR OUTSIDE VENDOR PROCESSING OF PCB ASSY.

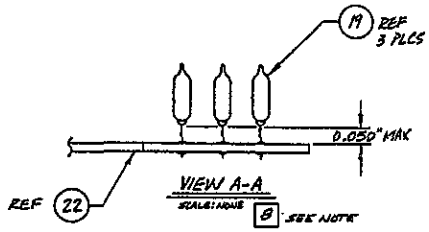
ITEM	P/N:	DESCRIPTION:	QTY	DESIGNATION:
42.	585816	DIODE, 1N5226, 3.3V ZENER	1	CR5
41.	901077	LOCTITE ACCELERATOR	A/R	C2, C3
40.	901009	LOCTITE ADHESIVE	A/R	C2, C3
39.	891026	WASHER, NYLON #4	1	Q1
38.	052269	PCB, Battery Charger, Rev B	1	
37.	491097	Connector Socket, Flex 18 Pin	1	J2
36.	401003	Connector Header, STR, 3 Pin	1	J1
35.	481015	Terminal, Test Point	6	TP1 thru TP6
34.	481014	Terminal, Disconnect Tab, .250	2	BATT+, BATT-
33.	851101	Kepnut, 4-40	2	VR1, Q1
32.	801038	Screw, Pan Hd, 4-40 x 3/8"	2	VR1, Q1
31.	891089	Heat Sink, Power Transistor	1	VR1,
30.	301097	Adhesive, Thermal Conductive	A/R	VR1
29.	691048	Voltage Regulator, Adj, LM317	1	VR1
28.	604403	Transistor, 2N4403	1	Q3
27.	604401	Transistor, 2N4401	1	Q2
26.	601208	Transistor, 12N08L	1	Q1
25.	585818	Diode, 1N5818	1	CR8
24.	691034	Bridge Rectifier, MDA200	1	CR6
23.	584148	Diode, 1N4148	4	CR2, CR4, CR5, CR7
22.	584624	Diode, 1N4624	2	CR1, CR8
21.	399113	Capacitor, Alum Elec. 2200uf	1	C7
20.	304473	Capacitor, M.S. .047uf	1	C6
19.	304224	Capacitor, M.S. .22uf	1	C5
18.	343106	Capacitor, Dip. Tant, 25V, 6.8uf	1	C4
17.	304104	Capacitor, M.S. .10uf	1	C3 SEE DETAIL A
16.	304154	Capacitor, M.S. .15uf	1	C2 SEE DETAIL A
15.	304103	Capacitor, M.S. .01uf	1	C1
14.	252002	Resistor, 1% 1W MW 1.35Ohm	1	R15
13.	214220	Resistor, 1% M.F. 422 Ohm	1	R13
12.	291012	Potentiometer, 18 Turn 100 Ohm	1	R12
11.	211000	Resistor, 1% M.F. 100 Ohm	3	R11, R14, R17
10.	212613	Resistor, 1% M.F. 261K	1	R9
9.	217503	Resistor, 1% M.F. 750K	1	R8
8.	214993	Resistor, 1% M.F. 499K	1	R6
7.	212004	Resistor, 1% M.F. 2 Meg Ohm	1	R5
6.	211003	Resistor, 1% M.F. 100K	2	R4, R10
5.	211001	Resistor, 1% M.F. 1.00K	2	R2, R7
4.	211002	Resistor, 1% M.F. 10.0K	3	R1, R3, R16
3.	197663	I.C. ICL7663	1	U3
2.	130074	I.C. 74HC74	1	U2
1.	130132	I.C. 74HC132	1	U1

Battery Charger PCB Assembly



Patient Module PCB Schematic





NOTES:

1. Orient I.C.'s with Pin 1 to Square Pad.
2. Color Coded Resistors to be LEFT or UP as appropriate.
3. Mount all Capacitors and Precision Resistors with value visible.
4. Polarized Capacitors to be mounted with positive (+) side to Square Pad.
5. Diodes to be mounted with banded (Cathode) side to Square Pad.
6. Capacitors C1, C2, C3 are NOT Loaded.

7. REMOVE BRACKET FROM CONNECTOR, J1, AFTER SOLDERING IN PLACE, IF REQUIRED.

8. LAMPS, DS1, DS2 AND DS3 TO BE MOUNTED WITH MAX LEAD LENGTH OF 0.050" ABOVE THE PCB AND THE SOLDER JOINT CLEARLY VISIBLE (BOTH SIDES) PER VIEW A-A.

9. SOLDER MASK HOLES B1 THRU E11 BEFORE WAVESOLDERING.

NOTE: THIS BOARD CONTAINS STATIC SENSITIVE COMPONENTS AND SHOULD BE HANDLED ACCORDINGLY.

10. CONNECTOR (20) TO BE SEALED, USING ADHESIVES (23 & 24). GREEN (SOURIAU): IN THE GAP BETWEEN PINS AND PLASTIC INSULATOR, AND BETWEEN METAL SHELL AND PLASTIC INSULATOR. BLUE (MAXCONN): IN THE GAP BETWEEN PINS AND PLASTIC HOUSING AND IN THE GAP IN THE BACK OF PLASTIC HOUSING. CONNECTOR TO BE SEALED BEFORE INSERTION INTO PCB.

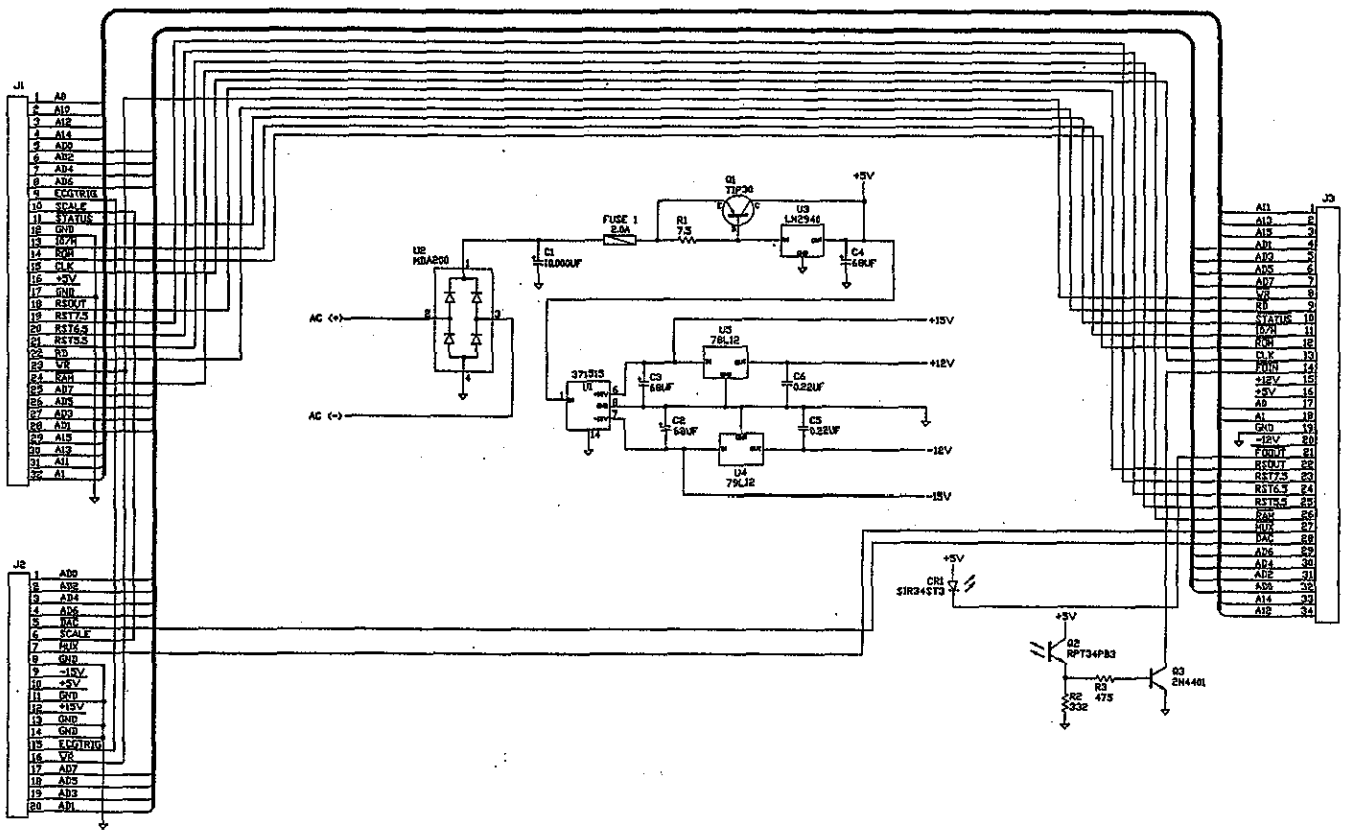
11. SOLDER SIDE: MAXIMUM LEAD LENGTH TO BE 1/16".

12. APPLY JET MELT GLUE (25) OVER EXPOSED LEADS OF R1, R2, R6, R7, R9, R10, R11, R12, CR1, CR2, CR3, CR4, CR5 AND CR6. WHILE APPLYING GLUE, VERIFY THAT LEADS ARE NOT SHORTING TO OTHER COMPONENTS ON PCB.

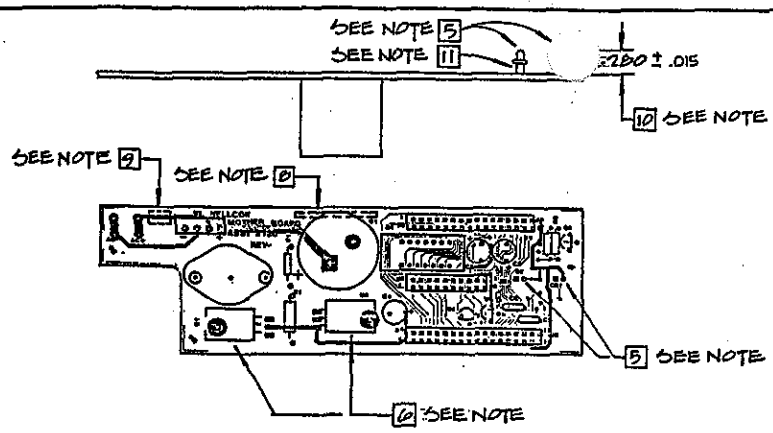
REFERENCE NOTES:
- REFERENCE "MADIC" BILLS OF MATERIAL 982694 AND 982694 FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.

#	P/N	DESCRIPTION:	QTY	REFERENCE
25.	901149	JET MELT GLUE	A/R	—
24.	901117	ADHESIVE, LOCTITE #460	A/R	J1 SEE NOTE 10
23.	901009	ADHESIVE, ACCELERATOR	A/R	J1
22.	092493	PCB, PREAMP, BARE	1	—
21.	212473	RESISTOR, 1% M.F. 249K	1	R13
20.	491122	Connector, 9 Pin D, FEMALE, 4 RSEN	1	J1 - SEE NOTE 7, 10
19.	691066	Lamp, Neon	3	DS1, DS2, DS3 - SEE NOTE 8
18.	691052	Voltage Regulator, Adjustable, LM317 (TO-92)	1	VR1
17.	584148	Diode, 1N4148	6	CR1 thru CR6
16.	304103	Capacitor, M.S. .01uf	1	C11
15.	304100	Capacitor, " 10pf	1	C8
14.	304104	Capacitor, " .10uf	4	C4, C7, C9, C10
13.	304224	Capacitor, " .22uf	1	C5
12.	344105	Capacitor, Dipped Tant, 35V 1uf	1	C4
11.	212004	Resistor, 1% M.F. 2 Meg	1	R12
10.	212003	Resistor, " " 200K	1	R11
9.	212001	Resistor, " " 2.00K	2	R9, R10
8.	211001	Resistor, " " 1.00K	1	R8
7.	212671	Resistor, " " 2.67K	1	R7
6.	214640	Resistor, " " 464 Ohm	1	R6
5.	211331	Resistor, " " 1.33K	1	R5
4.	291045	Resistor, 100 Meg Ohm Precision Film	2	R3, R4
3.	211003	Resistor, 1% M.F. 100K	2	R1, R2
2.	120442	ICS LF442N	1	U2
1.	199125	ICS INA101HP	1	U1

Patient Module PCB Assembly



Mother PCB Powerbase Schematic



NOTES:

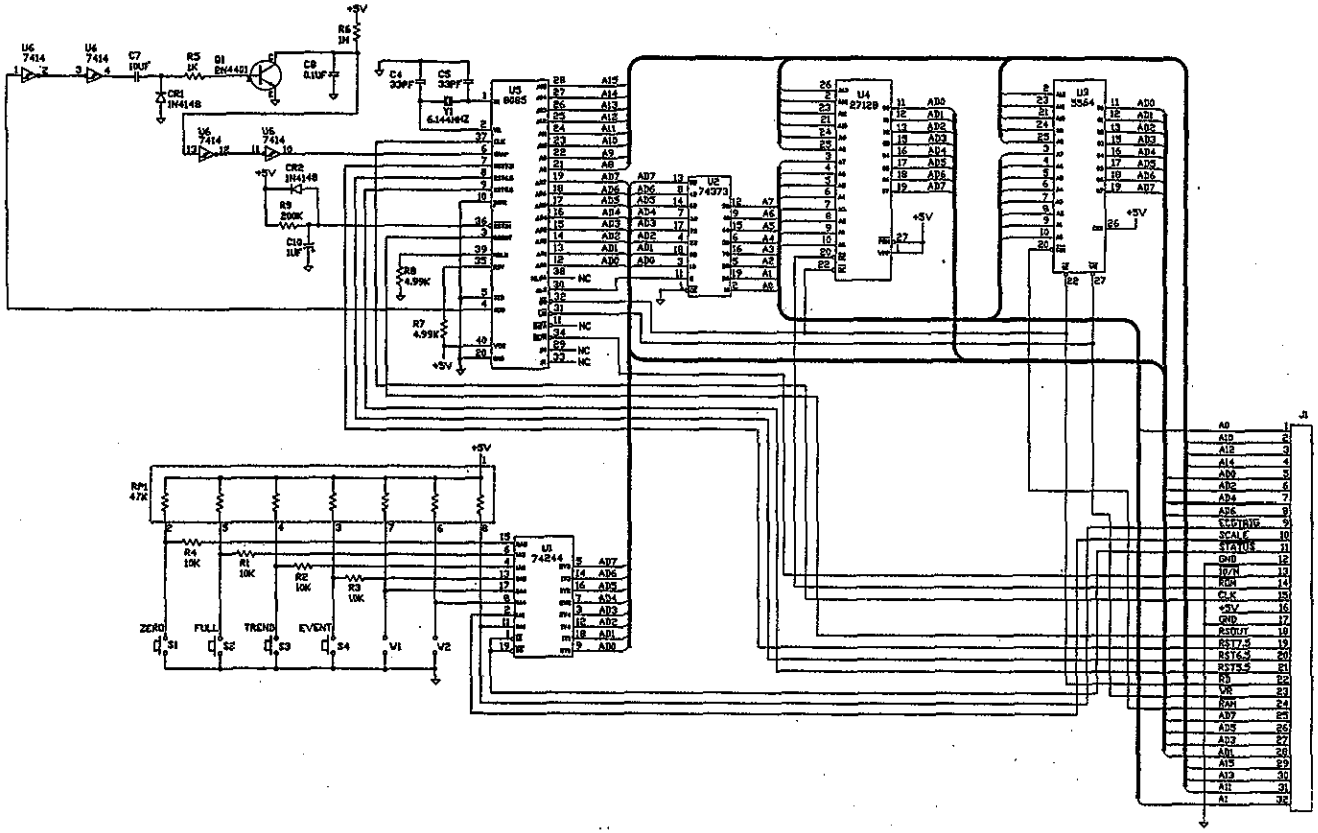
1. Orient I.C.'s with Pin 1 to Square Pad.
2. Polarized Capacitors to be mounted with positive (+) side to Square Pad.
3. Color coded Resistors to be LEFT or UP as appropriate.
4. Mount all Capacitors and Precision Resistors with value visible.
5. IR LED Lamp, CR1, and Photo Transistor, Q2, to be mounted on SOLDER SIDE, with CR1 short lead to Square Pad, and Q2 long lead to Square Pad.
6. Mount Voltage Regulator, U3, and Transistor, Q1, with Screw and Kepnut, Items 14 & 13; Kepnut to COMPONENT SIDE of PCB.
7. NOTE: This Board contains static sensitive components and should be handled accordingly.
8. Apply Assembly Revision, Vendor Code, and the Serial Number in the area indicated on SOLDER SIDE per procedure MI-019235.
9. Apply three (3) digit "Year Week" date code in the area indicated on SOLDER SIDE per procedure MI-019235.
10. Dimension shown is from top of the PCB to the top of the LED's.
11. Leads of Photo Transistor, Q2, (15), and LED Lamp, CR1, (17), to be heatsinked close to component body during soldering. Soldering tip temperature to be max. of 700°F for max. of 5 seconds.
12. All component leads not to exceed 1/16" max.

REFERENCE NOTES:

1. Reference "HADIC" Bill of Materials, 992120, AND 992120 FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.
2. THE FOLLOWING PARTS ARE NOT LOADED BY OUTSIDE VENDORS;
   A) FOR 992120: 691035 - PHOTO-TRANSISTOR
   501001 - LED LAMP, I.R.

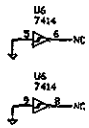
ITEM	P/N	DESCRIPTION	QTY	DESIGNATION
23.	052119	PCB, Mother, Bare, Rev D	1	-
22.	491101	Connector, Hdr, Str, 34 Pin	1	J3
21.	491103	Connector, Hdr, Str, 20 Pin	1	J2
20.	491102	Connector, Hdr, Str, 32 Pin	1	J1
19.	481014	Terminal, Disconnect Tab, .250"	2	AC+, AC-
18.	691024	Picofuse, 2.0 Amp	1	F1
17.	501001	LED Lamp, I.R.	1	CR1 - See Note 5
16.	604401	Transistor, 2N4401	1	Q3
15.	691035	Photo Transistor,	1	Q2 - See Note 5
14.	801025	Screw, Pan Hd, 4-40 x 1/4"	2	Q1, U3
13.	851101	Kepnut, 4-40	2	Q1, U3
12.	600030	Transistor, TIP30	1	Q1
11.	304224	Capacitor, MS .22uf	2	C5, C6
10.	344686	Capacitor, Dipped Tant. 25V 68uf	3	C2, C3, C4
9.	399111	Capacitor, Alum.Elect. 25V 10,000uf	1	C1
8.	214750	Resistor, 1%, M.F., 475 Ohm	1	R3
7.	213320	Resistor, 1%, M.F., 332 Ohm	1	R2
6.	250070	Resistor, 1/2W, 5% CC 7.5 Ohm	1	R1
5.	610012	Voltage Regulator, +12V, 78L12	1	U6
4.	611012	Voltage Regulator, -12V, 79L12	1	U4
3.	691049	Voltage Regulator, +5V, LM2940	1	U3 - See Note 6
2.	691014	Bridge Rectifier, MDA200	1	U2
1.	191515	I.C., DIP371515DB	1	U1

Mother PCB Powerbase Assembly

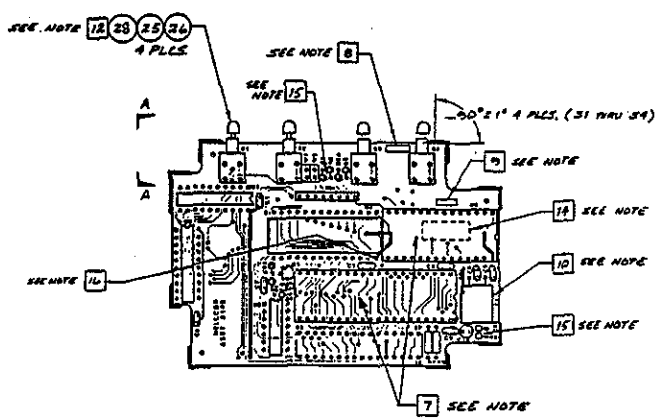


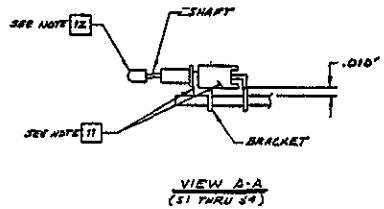
NOTES:

1 C1, C2, C3, C6, C9 ARE 0.1UF POWER SUPPLY DECOUPLING CAPACITORS.



Upper Daughter PCB
Powerbase Schematic





VIEW A-A
(S1 THRU S4)

NOTES:

1. Capacitor, C3, is NOT loaded.
2. Orient I.C.'s with Pin 1 to Square Pad.
3. Polarized Capacitors to be mounted with Positive (+) side to Square Pad.
4. Color Coded Resistors to be LEFT or UP as appropriate.
5. Diodes to be mounted with Banded (Cathode) side to Square Pad.
6. NOTE: This board contains static sensitive components and should be handled accordingly.
7. Add tape (24) to I.C. Sockets U4 and U5 (cut to length of Socket) before loading ROM assembly (5) and IC 80C85A (7).
8. Apply assembly revision, vendor code, and the serial number in the area indicated on Solder side per procedure MI-019235.
9. Apply three (3) digit 'Year Week' date code in the area indicated on Solder side per procedure MI-019235.
10. Crystal, Y1, (22) to be secured with foam tape (24), or hot melt glue, P/N 901091. Keep Y1 body within its silkscreened outline.
11. Switches S1-S4 to be mounted flush to PCB. Max gap of .010" allowed between PCB and bracket per view A-A.
12. Caps (25) must be completely seated and properly aligned on S1-S4 shaft.
13. All component leads to be 1/16" max.
14. PCB's passing "In Circuit Test" must be stamped by vendor on Solder Side.
15. APPLY ADHESIVE (30) BETWEEN Y1, R9 AND CR2, AND R1, R2, R3 AND R4. ALLOW TO CURE BEFORE SHIPMENT.
16. SOLDER SIDE: MINIMUM LEAD LENGTH OF I.C. VIL PINS TO BE 1/32".

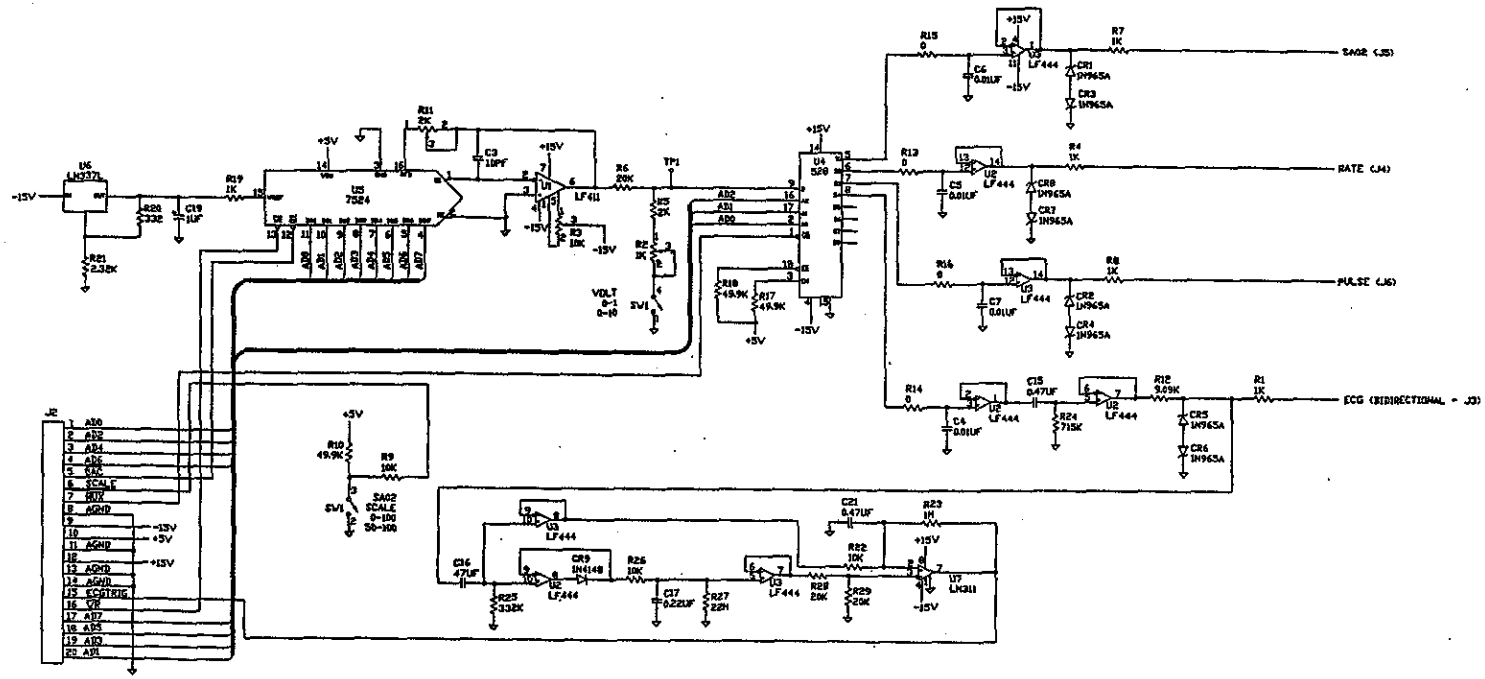
REFERENCE NOTE:

1) REFERENCE "MADIC" BILLS OF MATERIAL 982140 AND 992140 FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.

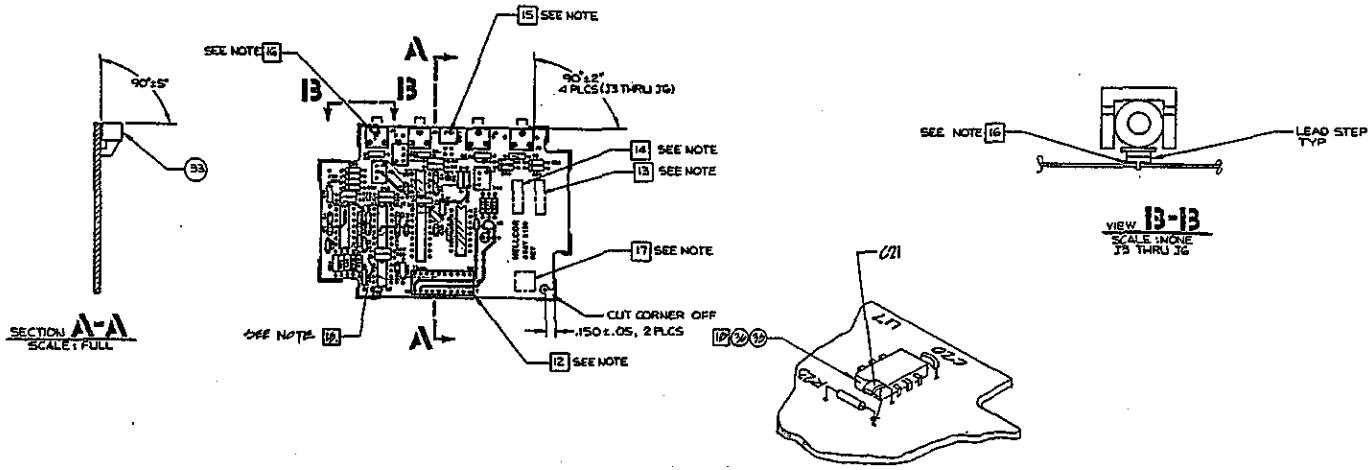
2) THE FOLLOWING COMPONENTS ARE NOT LOADED BY OUTSIDE VENDOR:
   A) FOR 992140 -
      P/N 141084 - I.C. 80C85A
      P/N 753121 - TAPE, FOAM, 1/2" (1.0M & 1C HT)
      P/N 073916 - ASSY, INTERFACE/POWERBASE PROGRAM
   B) FOR 982140
      P/N 753121 - TAPE, FOAM, 1/2" (1C HT)
      P/N 073916 - ASSY, INTERFACE/POWERBASE PROGRAM

ITEM	P/N:	DESCRIPTION:	QTY	DESIGNATION:
30.	901240	ADHESIVE, SILICONE RUBBER	A/R	R1, R2, R3, R4, R9, CR2, Y1 SEE NOTE 15
29.	052129	PCB, UPPER DAUGHTER REV B	1	-
28.	901009-2	ACCELERATOR, TAK-PAK, LIQUID	A/R	S1 THRU S4
27.	171128	I.C., 27C128, EPROM	REF	U4
26.	901117	Adhesive, Loctite #460	A/R	S1 thru S4
25.	639101	Cap, Black (Switch)	4	S1 thru S4
24.	753121	Tape, Foam, 1/16" Thk	A/R	See Note 7
23.	491091	Connector, Socket, R/A, 32 Pin	1	J1
22.	691001	Crystal, 6.144MHz	1	Y1
21.	630103	Switch, Momentary Pushbutton	4	S1 thru S4
20.	604401	Transistor, 2N4401	1	Q1
19.	584148	Diode, 1N4148	2	CR1, CR2
18.	343105	Capacitor, Dipped Tant. 35V 1uf	1	C10
17.	304103	Capacitor, M.S. .01uf	1	C7
16.	304330	Capacitor, M.S. 33pf	2	C4, C5
15.	304104	Capacitor, M.S. .10uf	5	C1, C2, C6, C8 & C9
14.	230473	Resistor Pkg, 8 Pin SIP 47K	1	RP1
13.	212003	Resistor, 1% M.F. 200K	1	R9
12.	214991	Resistor, " " 4.99K	2	R7, R8
11.	211004	Resistor, " " 1 Meg	1	R6
10.	211001	Resistor, " " 1.00K	1	R5
9.	211002	Resistor, " " 10.0K	4	R1 thru R4
8.	130014	I.C. 74HC14	1	U6
7.	151085	I.C. 80C85A	1	U5
6.	752040	I.C. Socket, 40 Pin	1	U5 - See Note 7
5.	073916	Assy, Interface/Powerbase Program	1	U4
4.	752028	I.C. Socket, 28 Pin	1	U4 - See Note 7
3.	161064	I.C. TC5564PL-15	1	U3
2.	130373	I.C. 74HC373	1	U2
1.	130244	I.C. 74HC244	1	U1

Upper Daughter PCB
Powerbase Assembly



Middle Daughter PCB
Powerbase Schematic



NOTES:

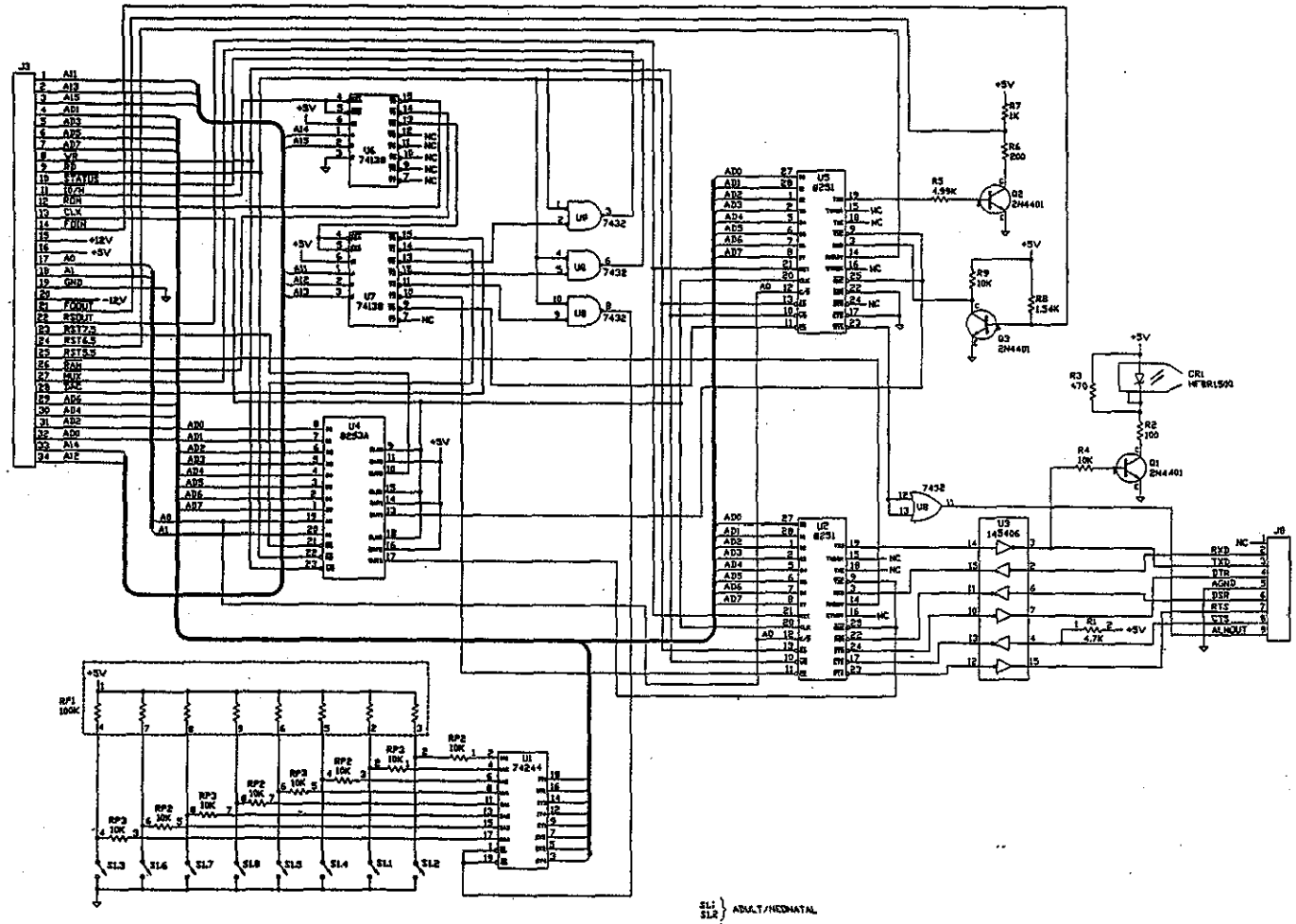
1. Orient I.C.'s with Pin 1 to Square Pad.
2. Polarized Capacitors to be mounted with positive (+) side to Square Pad.
3. Color coded Resistors to be LEFT or UP as appropriate.
4. Mount Capacitors and Precision Resistors with value visible.
5. Diodes to be mounted with banded (Cathode) side to Square Pad.
6. Resistors R13 through R16 are jumpered with 22 ga Buss wire across pads or with a zero ohm resistor.
7. Load Potentiometer, R3 with Pin 1 nearest Connector J3.
8. Load Potentiometer, R2 with Pin 1 nearest Test Point TP1.
9. Load Potentiometer, R11 with Pin 1 nearest Connector J5.
10. Test Point, TP1, IS NOT LOADED.
11. NOTE: THIS BOARD CONTAINS STATIC SENSITIVE COMPONENTS AND SHOULD BE HANDLED ACCORDINGLY. AFTER ASSEMBLY, PLACE IN STATIC SHIELDING BAG.
12. Trim leads of Connector J1 as close as possible to PCB, MAX. (32", AFTER soldering. All other component leads to be 1/16" MAX.
13. Apply Assembly Revision, Vendor Code, and the serial number in the area indicated on component side per procedure MI-019235.
14. Apply three (3) digit "year week" date code in the area indicated on component side per procedure MI-019235.
15. SWITCH, SW1, MAY NOT BE PROCESSED THROUGH AUTOMATIC FLOW SOLDER OR CLEANING OPERATIONS. DO NOT ALLOW FLUX REMOVER OR SOLVENTS to SWITCH.
16. Analog jacks (J3) to be mounted with lead steps flush to PCB. Max. gap of .010" allowed between lead step and PCB per View B-B.
17. PCB's passing "In Circuit Test" must be stamped by vendor on solder side.
18. CONNECT CAPACITOR C21 (2W) BETWEEN THE LEFT SIDE OF RESISTOR R23 AND I.C., U7, PIN 1, AS SHOWN IN DETAIL "A".

REFERENCE NOTE:

1. REFERENCE 'MADE' BILL OF MATERIAL 302160 OR 302150 FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.

ITEM	P/N:	DESCRIPTION:	QTY	DESIGNATION
35.	901077	ADHESIVE, ACCELERATOR	A/R	C21
37.	082149	PCB, Middle Daughter, REV B	1	-
36.	901184	Adhesive, Loctite 422	A/R	C21
35.	491024	Connector, Analog Jacks	4	J3, J4, J5, J6
34.	491080	Connector, Socket, R/A, 20 Pin	1	J1-See Note 12
33.	631206	Switch, DIP, R/A. 2- POSITION	1	SW1
32.	481015	Terminal, Test Point	1	TP1-See Note 10
31.	584148	Diode, 1N4148	1	CR9
30.	580965	Diode, 1N965A, Zener, 15V	8	CR1 thru CR8
29.	B43306	Capacitor, Dipped Tant, 1uf 35V	1	C19
28.	304324	Capacitor, M.S. .22uf	1	C17
27.	304473	Capacitor, M.S. .047uf	1	C16
26.	304474	Capacitor, M.S. .47uf	2	C15, C21
25.	304103	Capacitor, M.S. .01uf	4	C4 thru C7
24.	304100	Capacitor, M.S. 10pf	1	C3
23.	304104	Capacitor, M.S. .10uf	13	C1, C2, C8 thru C14, C18, C20
22.	200226	Resistor, 1/4W, 5% CC 22 Meg	1	R27
21.	213323	Resistor, 1% M.F. 332K	1	R26
20.	217153	Resistor, " " 715K	1	R24
19.	210004	RESISTOR, " " 1M	1	R23
18.	213721	Resistor, " " 2.32K	1	R22
17.	213330	Resistor, " " 332 Ohm	1	R20
16.	214981	Resistor, " " 4.99K	3	R17, R18
15.	219091	Resistor, " " 9.09K	1	R12
14.	214998	Resistor, " " 49.9K	1	R10
13.	211002	Resistor, " " 10.0K	3	R9, R22, R25
12.	212003	Resistor, " " 20.0K	3	R5, R28, R29
11.	212001	Resistor, " " 2.00K	1	R3
10.	211051	Resistor, " " 1.00K	8	R1, R4, R7, R8, R15
9.	291054	Potentiometer, 18 Turn 2K Top	1	R11
8.	291008	Potentiometer, 18 Turn 10K Top	1	R3
7.	291006	Potentiometer, 18 Turn 1K Top	1	R2
6.	110311	I.C. LM311, Voltage Comparator	1	U7
5.	491051	Voltage Regulator, Adjustable, LM337L	1	U6
4.	197524	I.C. 7524LN, 8 Bit DAC	1	U5
3.	190528	I.C. DG528, Analog Switch	1	U4
2.	130444	I.C. LF444	2	U2, U3
1.	120441	I.C. LF441A	1	U1

Middle Daughter PCB
Powerbase Assembly

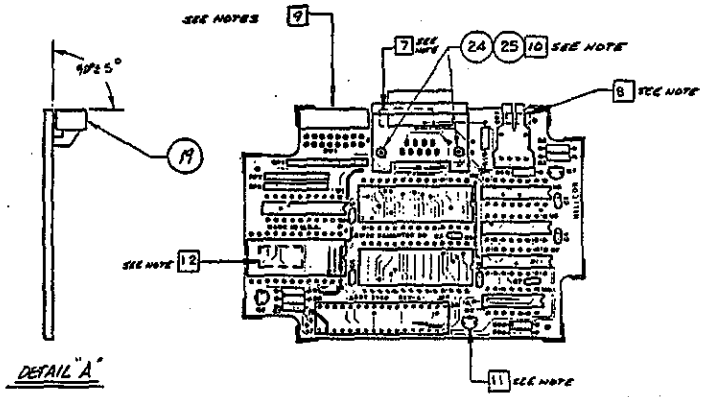


NOTES:

1. C1 THRU C7 ARE 0.1UF POWER SUPPLY DECOUPLING CAPS.

S1: S1.2 } ADULT/NEONATAL
S1.3 S1.4 S1.5 } RS232 FORMAT
S1.6
S1.7 S1.8 } BAUD RATE

Lower Daughter PCB
Powerbase Schematic



REFERENCE NOTES:
1. REFERENCE "MADIC" BILLS OF MATERIAL 982KGO AND 992IGO FOR OUTSIDE VENDOR PROCESSING OF PCB ASSEMBLY.

10 INSTALL SCREW (24) FROM SOLDER SIDE.

11 HEIGHT OF TRANSISTOR Q3 NOT TO EXCEED HEIGHT OF CONNECTOR, J3

12 PCB'S PASSING "IN CIRCUIT TEST" MUST BE STAMPED BY VENDOR ON SOLDER SIDE.

NOTES:
1. Orient I.C's with Pin 1 to Square Pad.
2. Polarized Capacitors to be mounted with positive (+) side to Square Pad.
3. Color Coded Resistors to be LEFT or UP as appropriate.
4. Mount all Capacitors and Precision Resistors with value visible.
5. Diodes to be mounted with banded (Cathode) side to Square Pad.
6. NOTE: This board contains static sensitive components and should be handled accordingly.

7 APPLY ASSEMBLY REVISION, VENDOR CODE, AND THE SERIAL NUMBER IN THE AREA INDICATED ON SOLDER SIDE PER PROCEDURE MI-019235.

8 APPLY THREE (3) DIGIT 'YEAR WEEK' DATE CODE IN THE AREA INDICATED ON SOLDER SIDE PER PROCEDURE MI-019235.

9 SWITCH; SW1, (9) MAY NOT BE PROCESSED THRU AUTOMATIC FLOW SOLDER OR CLEANING OPERATIONS. DO NOT ALLOW FLUX REMOVER OR SOLVENTS IN SWITCH.

ITEM	P/N:	DESCRIPTION	QTY	DESIGNATION:
25.	85 NOI	KEPNUT #4-40	2	J8
24.	801038	SCREW, PAN HD, #4-40 x 3/8"	2	J8
23.	130244	IC 74HC244	1	U1
22.	052159	PCB, Lower Daughter, Rev A	1	-
21.	463109	Connector, DB, 9 Pin	1	J8
20.	491092	Connector, Socket. R/A. 34 Pin	1	J3
19.	632105	Switch, DIP, R/A, 8 Position	1	SW1
18.	621001	Fiber Optics Transmitter	1	CR1
17.	604401	Transistor, 2N4401	3	Q1, Q2, Q3
16.	304104	Capacitor, M.S. .10uf	7	C1 thru C7
15.	291049	Resistor Pkg, 8 pin SIP 10K	2	RP2, RP3
14.	220104	Resistor Pkg, 10 Pin SIP 100K	1	RP1
13.	211541	Resistor, 1% M.F. 1.54K	1	R8
12.	211001	Resistor, " " 1.00K	1	R7
11.	212000	Resistor, " " 200 ohm	1	R6
10.	214991	Resistor, 1% M.F. 4.99K	1	R5
9.	211002	Resistor, " " 10.0K	2	R4, R9
8.	200471	Resistor, 1/4W 5% CC 470 Ohm	1	R3
7.	200101	Resistor, " " " 100 Ohm	1	R2
6.	200472	Resistor, " " " 4.7K	1	R1
5.	130032	I.C. 74HC32	1	U8
4.	130138	I.C. 74HC138	2	U6, U7
3.	198253	I.C. 82C53-5	1	U4
2.	199119	I.C. MC145406	1	U3
1.	199121	I.C. 82C51	2	U2, U5

Lower Daughter PCB
Powerbase Assembly

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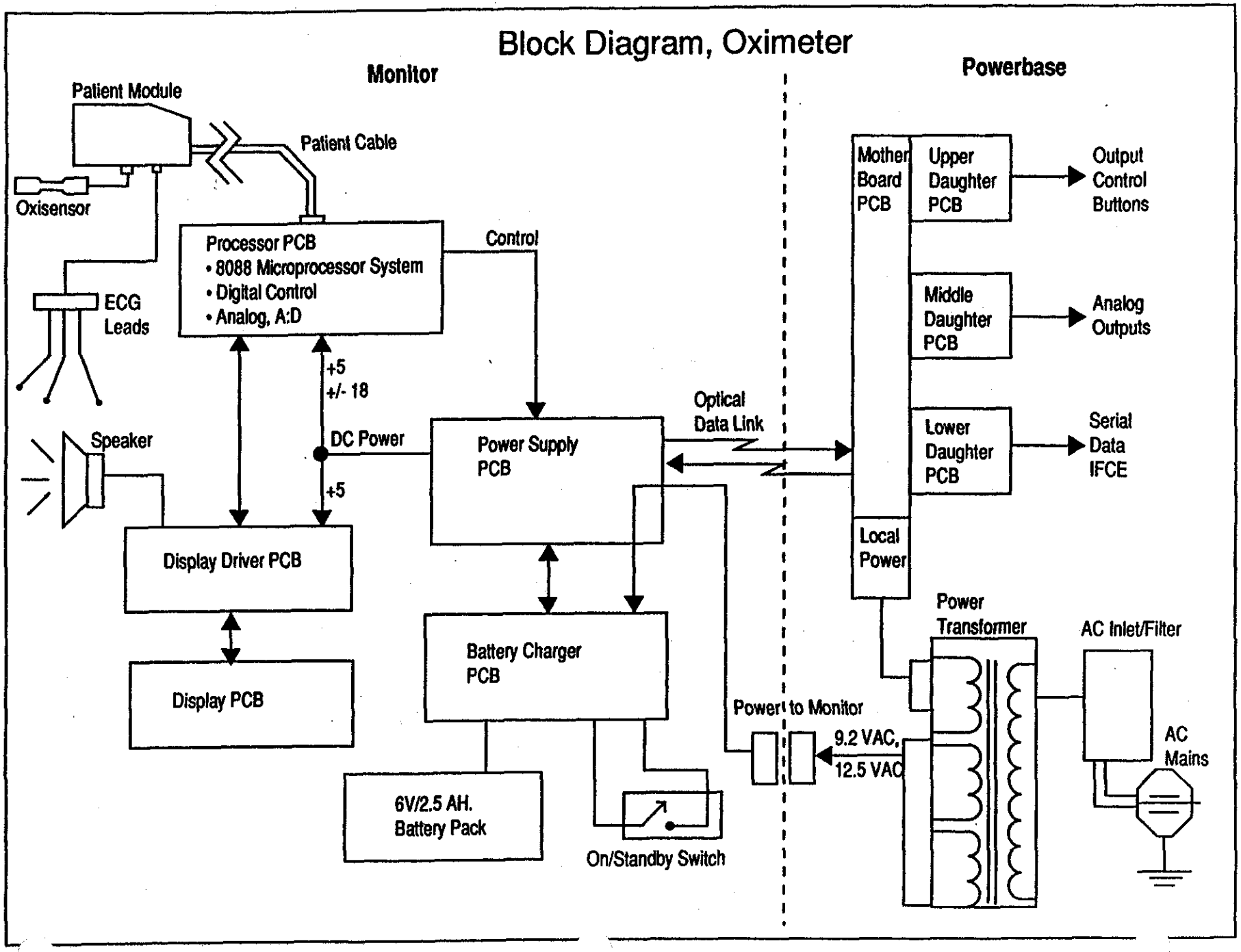
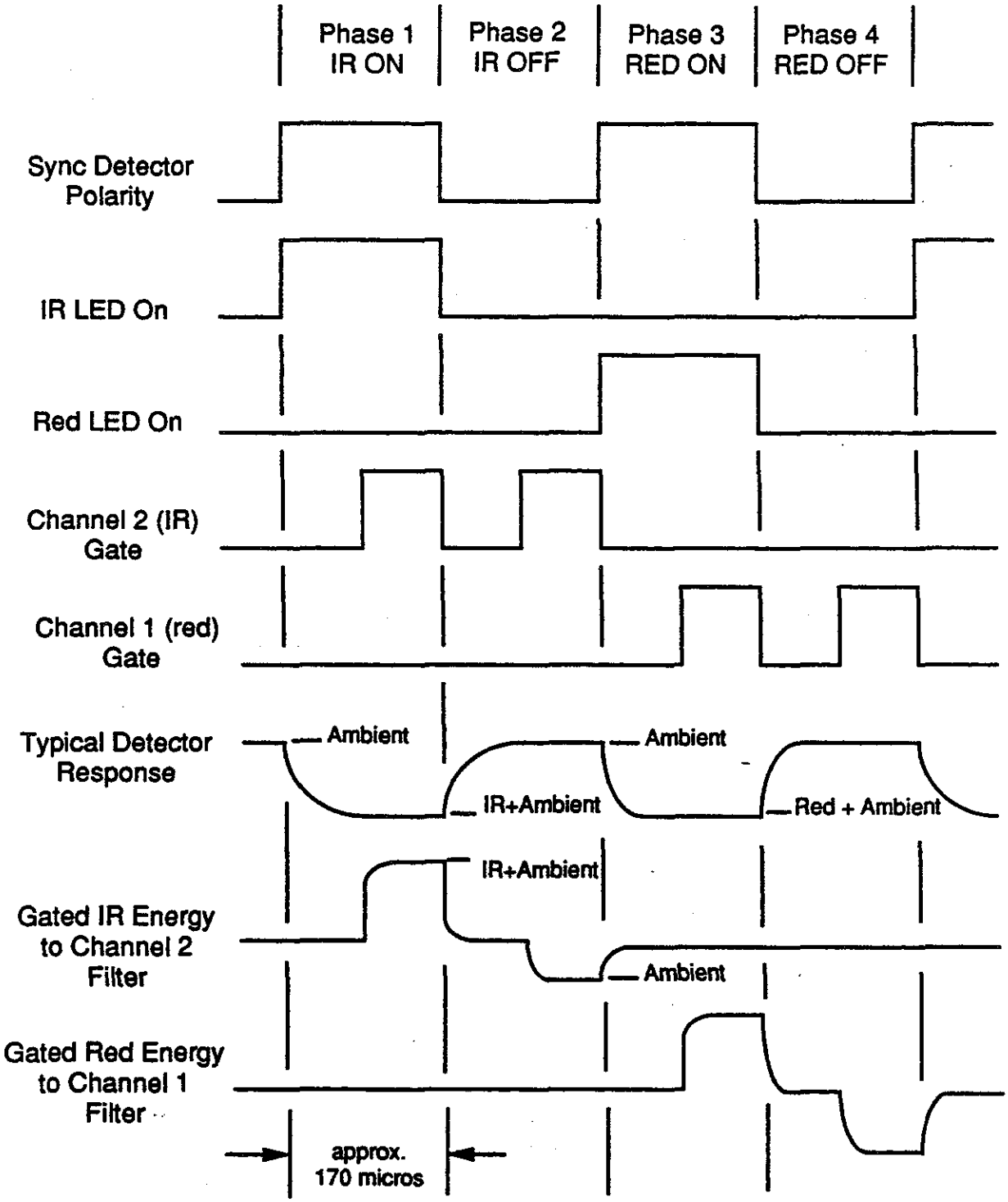
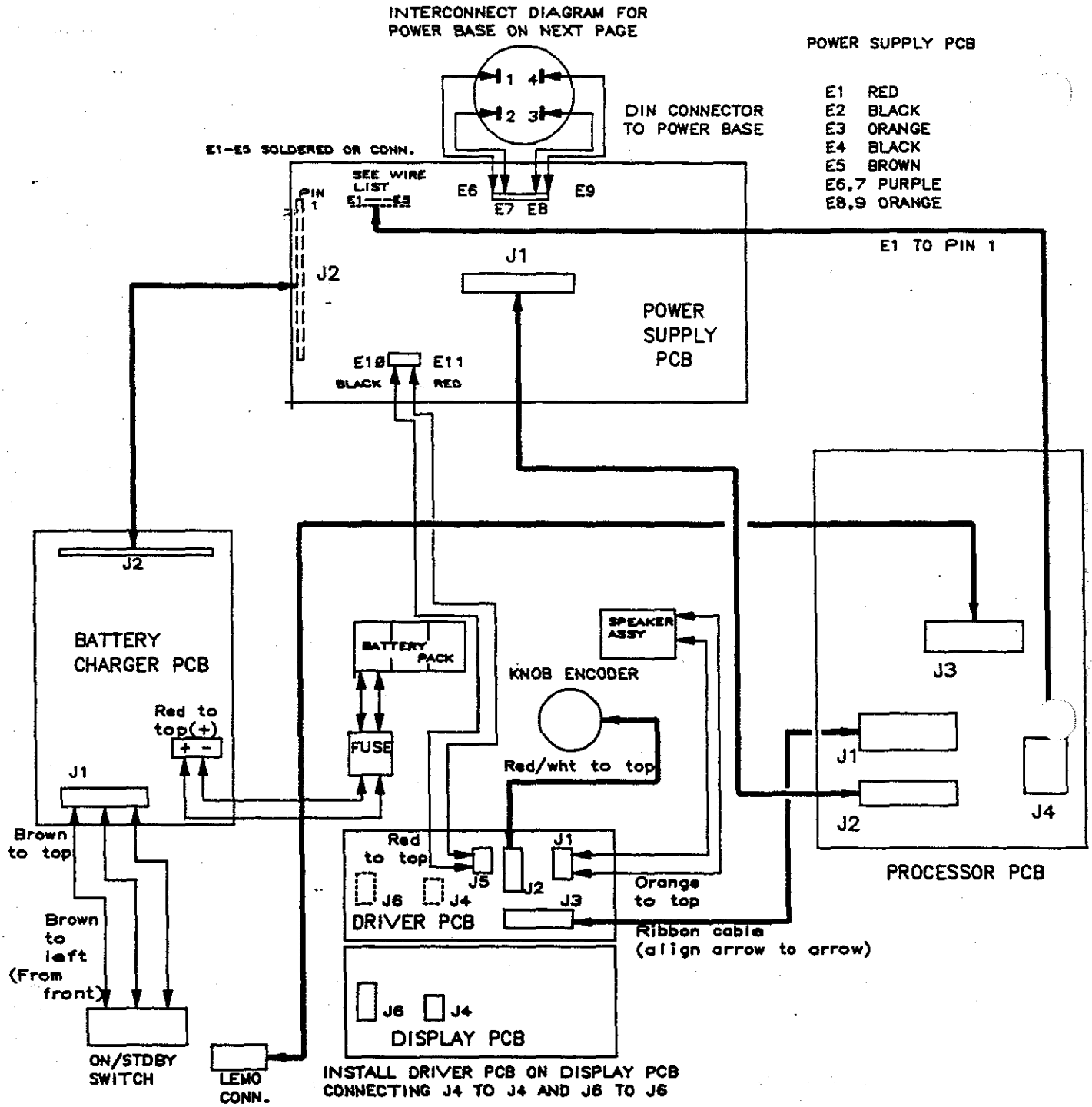
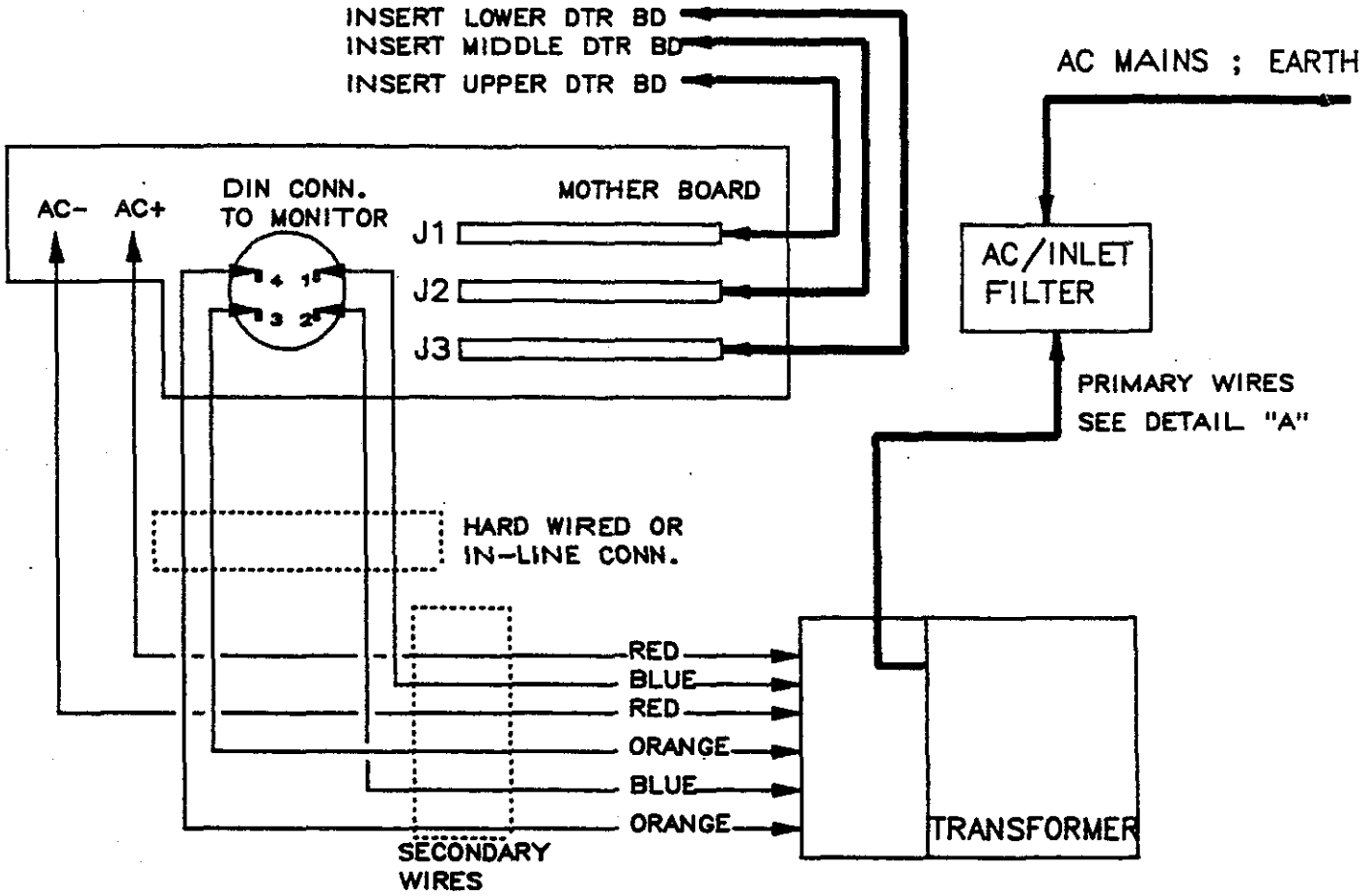

Block Diagram, Oximeter
Monitor
Powerbase
Patient Module
Patient Cable
Oxisensor
Processor PCB
• 8088 Microprocessor System
• Digital Control
• Analog, A:D
Control
ECG
Leads
+5
+/- 18
DC Power
+5
Speaker
Power Supply
PCB
Optical
Data Link
Display Driver PCB
Display PCB
Battery Charger
PCB
6V/2.5 AH.
Battery Pack
On/Standby Switch
Power to Monitor
9.2 VAC,
12.5 VAC
Mother
Board
PCB
Upper
Daughter
PCB
Output
Control
Buttons
Middle
Daughter
PCB
Analog
Outputs
Lower
Daughter
PCB
Serial
Data
IFCE
Local
Power
Power
Transformer
AC Inlet/Filter
AC
Mains



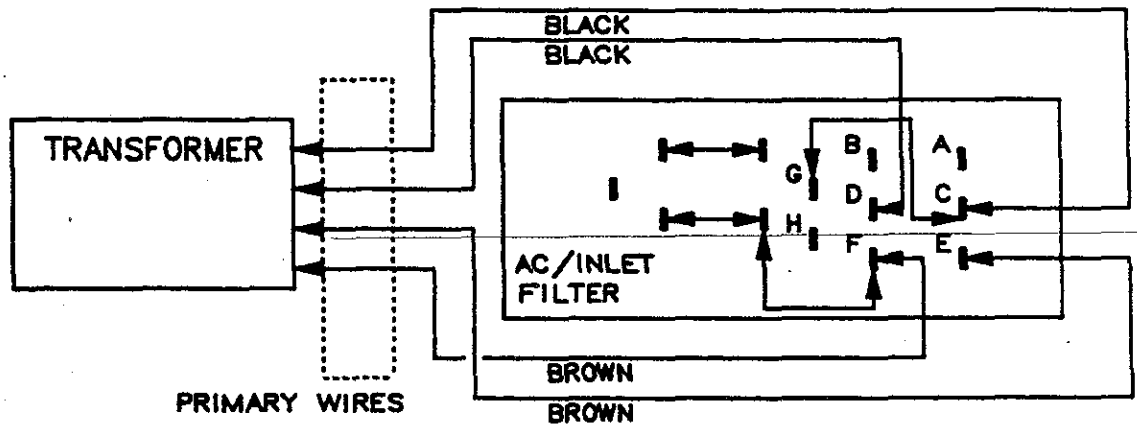
Timing Diagram, Oximeter



Cable Interconnect Diagra
Monitor



INTERCONNECT DIAGRAM-N200 POWER BASE



DETAIL "A"

Cable Interconnect Diagram, Powerbase

SECTION 10

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